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File  94:JICST-EPlus 1985-2006/Nov W2
        (c)2006 Japan Science and Tech Corp(JST)
File  95:TEME-Technology & Management 1989-2006/Jan W4
        (c) 2006 FIZ TECHNIK
File  99:Wilson Appl. Sci & Tech Abs 1983-2005/Dec
        (c) 2006 The HW Wilson Co.
File 144:Pascal 1973-2006/Jan W1
        (c) 2006 INIST/CNRS
File 315:ChemEng & Biotec Abs 1970-2005/Dec
        (c) 2005 DECHEMA
File 357:Derwent Biotech Res. _1982-2006/Jan W3
        (c) 2006 Thomson Derwent & ISI
File 358:Current BioTech Abs 1983-2005/Dec
         (c) 2005 DECHEMA
File 285:BioBusiness(R) 1985-1998/Aug W1
        (c) 1998 BIOSIS
Set     Items   Description
S1     461404   JOINT? ?
S2     161606   PROSTHES?S OR PROSTHETIC? ? OR IMPLANT? ?
S3     847126   POLYMER??
S4      48044   CHAIN? ?(5N)(LENGTH OR LONG OR LONGER OR SHORTER)
S5          0   BIDISPERGENT
S6      66623   CROSSLINK?
S7      12631   POLYETHYLENE()OXIDE? OR POLYVINYLPYRROLIDONE OR POLYVINYL(-
             )PYRROLIDONE
S8      88499   POLYACRYLATE? OR POLYSTYRENE OR POLYETHER? OR POLYVINYLALC-
            OHOL OR POLYVINYL()ALCOHOL
S9     130465   POLYETHYLENE OR POLYPROPYLENE
S10     27454   BIOCOMPATIB?
S11     20474   S1 AND S2
S12      5934   S3(S)S4
S13    210541   S7:S9
S14       935   S11 AND S10
S15         1   S14 AND (S3 OR S13) AND S4 [not relevant]
S16       329   S14 AND (S3 OR S13)
S17       328   S16 NOT S15
S18   2295172   TWO
S19   4814916   2
S20        47   S17 AND S18
S21        68   S17 AND S19
S22        97   S20:S21
S23        92   RD  (unique items)
S24         4   S23/2000
S25         6   S23/2001
S26        10   S23/2002
S27         9   S23/2003
S28         9   S23/2004
S29         6   S23/2005:2006
S30        48   S23 NOT S24:S29
S31        48   Sort S30/ALL/PY,A
S32    352147   CAVITY OR CAVITIES OR HOLE OR HOLES OR APERTURE? ?
S33       472   S1(1N)S32
S34         2   S11 AND S12 [duplicates]
S35         1   S16 AND S33
S36         4   S11 AND (S3 OR S13) AND S33
S37         3   S36 NOT (S22 OR S34 OR S35 OR S15)
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S38 3 RD (unique items) [not relevant]

31/6/6 (Item 6 from file: 94)
01572460 JICST ACCESSION NUMBER: 92A0366700 FILE SEGMENT: JICST-E
Development of Ligament-bone Junction in Anterior Cruciate Ligament Reconstruction with the Scaffold Type Polyester Artificial Ligament(Leeds-Keio) in the Dog., 1992

31/6/8 (Item 8 from file: 144)
11379894 PASCAL No.: 94-0206826
Microstructural pathway of fracture in poly(methyl methacrylate) bone cement
1993

31/6/9 (Item 9 from file: 95)
00868918 F95020066966
Compressive stress relaxation behavior of irradiated ultra-high molecular weight polyethylene at 37 deg C
(Druckspannungsrelaxationsverhalten von bestrahltem Polyaethlyen mit ultrahohem Molekulargewicht bei 37 Grad Celsius)
1994

31/6/10 (Item 10 from file: 95)
00854830 F94120086940
Long-term durability of the interface in FPR composites after exposure to simulated physiologic saline environments
(Dauerhaltbarkeit der Verklebung in GFK-Teilen nach simulierter Einwirkung physiologischer Salzloesungen)
1994

31/6/13 (Item 13 from file: 94)
02581989 JICST ACCESSION NUMBER: 95A0626296 FILE SEGMENT: JICST-E
Mechanical Compatibility of Bioactive Cement for Total Hip Replacement., 1995

31/6/19 (Item 19 from file: 95)
00971321 F96010270973
Biochemical surface modification of Co-Cr-Mo
(Biochemische Oberflaechenmodifikation von Co-Cr-Mo)
1996

31/6/25 (Item 25 from file: 95)
01113243 M97062052619
Evaluation of diamond-like carbon-coated orthopaedic implants
1997

31/6/26 (Item 26 from file: 95)
01098747 F97050115957
The wear of ultra-high molecular weight polyethylene sliding on metallic and ceramic counterfaces representative of current femoral surfaces in joint replacement
(Der Verschleiss von ultrahochmolekularem Polyaethylen beim Gleiten auf metallischen oder keramischen Oberflaechen, repraesentativ fuer femorale Komponenten von aktuellen Gelenkprothesen)
1997

31/6/27 (Item 27 from file: 95)

01098737 F97050119957
Clinical wear behaviour of ultra-high molecular weight polyethylene cups paired with metal and ceramic ball heads in comparison to metal-on-metal pairings of hip joint replacements
(Das klinische Verschleissverhalten von Hueftgelenkprothesen der Werkstoffpaarung Gelenkschale aus ultrahochmolekularem Polyaethylen mit Gelenkkopf aus Metall oder Keramik im Vergleich zu Metall-auf-Metall-Paarung)
1997

31/6/30 (Item 30 from file: 94)
04147194 JICST ACCESSION NUMBER: 99A0527381 FILE SEGMENT: JICST-E
Development of Endogenous Signal Responsive Implanted Drug Delivery System in Hard Tissues., 1998

31/6/34 (Item 34 from file: 95)
01257200 F98100096969
Diamond coated total hip replacements
(Diamantbeschichtete Hueftgelenkprothesen)
1998

31/6/38 (Item 38 from file: 285)
01012281
Flow cytometric analysis of macrophage response to ceramic and polyethylene particles: Effects of size, concentration, and composition.

31/6/41 (Item 41 from file: 144)
13712478 PASCAL No.: 98-0403570
Diamond coated total hip replacements : Biocompatibility and Host Response in Total Hip Replacement
1998

31/6/42 (Item 42 from file: 94)
04192434 JICST ACCESSION NUMBER: 99A0704729 FILE SEGMENT: JICST-E
Bioceramics: Current Status and Future Prospects. Development Drug Delivery System by Using Apatite Related Bone Cement., 1999

31/6/43 (Item 43 from file: 95)
01365814 19991200841
Surface roughness quantification of CoCrMo implant alloys
(Quantifizierung der Oberflaechenrauhigkeit von Implantaten aus CoCrMo Legierungen)
1999

31/6/48 (Item 48 from file: 144)
14261416 PASCAL No.: 99-0465107
Biphasic calcium phosphate/hydrosoluble polymer composites : A new concept for bone and dental substitution biomaterials
Selected manuscripts from the Ninth European Meeting on Injectable Bone and Joint Substitution Materials, EPFL, Lausanne, March 1- 2 , 1999
1999

31/7/2 (Item 2 from file: 94)
DIALOG(R)File 94:JICST-EPlus

01266675 JICST ACCESSION NUMBER: 91A0179724 FILE SEGMENT: JICST-E
New concept for development of biomaterials.
TATEISHI TETSUYA (1)
(1) Mechanical Engineering Lab.
Kikai Gijutsu Kenkyujo Shoho(Journal of Mechanical Engineering Laboratory)
, 1990, VOL.44,NO.5, PAGE.161-165, FIG.6
JOURNAL NUMBER: F0150ABK ISSN NO: 0388-4252
UNIVERSAL DECIMAL CLASSIFICATION: 615.461/.466 616/618-76/78
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Commentary
MEDIA TYPE: Printed Publication
ABSTRACT: With the arrival of an aging society, the development of **biomaterial** substituting biofunctions has increasingly become a new important research field. The outline of research field is introduced.1) History of artificial **joints** . **2**) Development of high-functional artificial **joints** . It is impossible for a single material such as metal, ceramic and **polymer** to satisfy many requirements of organisms.3) Intelligent material with an access to the marvelousness of organisms.4) Biomedical material with gradient function.5) Biomechanics of hurt, medical treatment and prevention.

31/7/3 (Item 3 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management
(c) 2006 FIZ TECHNIK. All rts. reserv.
00589875 F92062219983
Friction and wear properties of biomaterials for artificial joint
(Reibungs- und Verschleisseigenschaften von **Biomaterialien** fuer kuenstliche Gelenke)
Tateishi, T; Terui, A; Yunoki, H
MITI Mito, J; Kyocera Kyoto, J
Bioceramics, Proceedings of the 2nd International Symposium on Ceramics in Medicine, Heidelberg, D, September 19891990
Document type: Conference paper Language: English
Record type: Abstract
ISBN: 3-925542-06-6
ABSTRACT:
A 3-channel reciprocating pin on flat wear machine was used to compare the wear properties of variety of **prosthetic joint** materials. **Two** types of tests were run: (1) Ultrahigh molecular weight (UHMW) **polyethylene** (M(ind **2**):5 million)) bearing against alumina, zirconia ceramics, Co-Cr and Ti-6Al-4V alloys counterface. (**2**) UHMW polymethyl-methacrylate (M(ind w):12 million)) bearing alumina and Ti alloy counterface.

31/7/18 (Item 18 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management
(c) 2006 FIZ TECHNIK. All rts. reserv.
01020654 F96070080973
Numerical and experimental stress analysis of a polymeric composite hip joint prosthesis
(Numerische und experimentelle Stress-Analyse einer Hueftgelenk-Prothese aus **Polymer**kompositen)
Akay, M; Aslan, N
Univ. of Ulster at Jordanstown, Newtownabbey, GB; Kirikkale Univ.,

Kirikkale, TR
Journal of Biomedical Materials Research, v31, n2, pp167-182, 1996
Document type: journal article Language: English
Record type: Abstract
ISSN: 0021-9304
ABSTRACT:
A comparative stress analysis of a **polymeric** composite hip **joint** replacement was performed. A prototype short carbonfiber reinforced PEEK (CF/PEEK) **prosthesis** was manufactured by injection molding. Finite element (FE) analysis was conducted on intact femurs fitted with the CF/PEEK and the titanium **prostheses** under various loading conditions. FE models were validated by experimental strain gauge measurements by using synthetic femurs. There was a good agreement between the two methods except in the hoop strain of the femur in the calcar region because of the assumption of the isotropic material properties. The stem stresses were lower for the CF/PEEK **prosthesis** than for the titanium **prosthesis** . The maximum stress was in the spigot of the CF/PEEK **prosthesis** , but in the middle third of the stem of the titanium **prosthesis** . Stress generated in the cement was almost equal for both **prostheses** although more load was transferred, via cement, to the femur with the CF/PEEK **prosthesis** because the load transfer took place over a larger area. An out-of-plane component of the **joint** load causes higher **prosthesis** and cement stresses.

31/7/22 (Item 22 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01228893 F98060250982
Comparison of friction characteristics of artifical cartilage materials sliding against prosthetic joint materials
(Vergleich der Reibungscharakteristika von Knorpelersatzmaterialien, die entlang der Materialien von Gelenkprothesen gleiten)
Sawae, Y; Murakami, T; Moriyama, S
Kyushu Univ., Fukuoka, J
Internat. Conf. on New Frontiers in Biomechanical Engineering, Proc., Tokyo, J, Jul 18-19, 19971997
Document type: Conference paper Language: English
Record type: Abstract
ABSTRACT:
Experimental study of friction characteristics of artificial cartilage materials was carried out. Several hydrogels, **polyvinylalcohol** (PVA) hydrogels and **two** kind of semi-interpenetrating network (SIPN) hydrogels and polyurethane were used as artificial cartilage materials. Their friction coefficient at the start of the sliding motion after prolonged loading was evaluated with pin-on-disk test apparatus, and frictional behavior under the walking condition was examined in knee **joint** simulator test. As a result, PVA hydrogel which has relatively high water contents showed a good frictional behavior, but its durability was not sufficient for **long** term use. Friction characteristics of SiPNs were quite different with their composition, and SIPN with pellethane showed a good frictional behavior in simulator test.

31/7/23 (Item 23 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01183114 F97120218940
Corrosion behaviour and mechanical properties of functionally gradient materials developed for possible hard-tissue applications
Becker, BS; Bolton, JD
Univ. of Bradford, GB
Journal of Materials Science - Materials in Medicine, v8, n12, pp793-797, 1997
Document type: journal article Language: English
Record type: Abstract
ISSN: 0957-4530
ABSTRACT:
Artificial hip **joints** have an average lifetime of 10 years due to aseptic loosening of the femoral stem attributed to **polymeric** wear debris; however, there is a steadily increasing demand from younger osteoarthritis patients aged between 15 and 40 years for a **longer** lasting **joint** of 25 years or more. Compliant layers incorporated into the acetabular cup generate elastohydrodynamic lubrication conditions between the bearing surfaces, reduce **joint** friction coefficients and wear debris production and could increase the average life of total hip replacements, and other human load-bearing **joint** replacements, i.e. total knee replacements. Poor adhesion between a fully dense substrate and the compliant layer has so far prevented any further exploitation. This work investigated the possibility of producing porous metallic, functionally gradient type acetabular cups using powder metallurgy techniques - where a porous surface was supported by a denser core - into which the compliant layers could be incorporated. The corrosion behaviour and mechanical properties of three biomedically approved alloys containing **two** levels of total porosity (greater than 30 % and smaller than 10 %) were established, resulting in Ti-6Al-4V being identified as the most promising **biocompatible** functionally graded material, not only for this application but for other hard-tissue **implants**.

31/7/28 (Item 28 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01079072 F97030072982
A comparison of the inflammatory potential of particulates derived from two **composite materials**
(Ein Vergleich des Entzuendungspotentials von Partikeln, die von zwei Verbundmaterialien abstammen)
Moore, R; Beredjiklian, P; Rhoad, R; Theiss, S; Cuckler, J; Ducheyne, P; Baker, DG
Univ. of Pennsylvania School of Med., Philadelphia, USA
Journal of Biomedical Materials Research, v34, n2, pp137-147, 1997
Document type: journal article Language: English
Record type: Abstract
ISSN: 0021-9304
ABSTRACT:
In order to develop total **joint** protheses with moduli of elasticity close to bone while retaining excellent strength characteristics, composite materials are being developed. Composites consist of graphite fibers embedded in a **polymer** matrix. The authors studied the inflammatory potential of particulates derived from **two** composites with different matrix components, polysulfone (PFS) and **polyetherketoneketone** (PEKK), in the rat subcutaneous air pouch model. Neat components of the composites were studied separately in the air pouch. Particulates also were studied in

culture using the macrophage cell line RAW 264.7, adherent synovial cells (ASC), and human polymorphonuclear neutrophils (PMNs). Particles derived from the PEKK-containing composite material consistently were less inflammatory than the PFS composite-derived particles, as measured by PMN infiltration, neutral metalloprotease activity, tumor necrosis factor (TNF) activity, and prostaglandin E(ind 2) (PGE(ind 2)) accumulation. Results from the neat materials confirmed the findings in the composite-derived material. PEKK composite-derived material produced less TNF from macrophage cultures, but there were no significant differences noted in the PGE(ind 2) production from ASC or in superoxide anion generation from PMNs. Particles from both PSF and PEKK produced minimal inflammatory responses in the rat subcutaneous air pouch. PEKK elicited a response virtually the same as the saline control and significantly less than that produced by particles of PSF.

31/7/31 (Item 31 from file: 94)
DIALOG(R)File 94:JICST-EPlus

03496486 JICST ACCESSION NUMBER: 98A0254960 FILE SEGMENT: JICST-E
Development of Artificial Articular Cartilage.
OKA MASANORI (1)
(1) Res. Center Biomedical Engineering
Seitai Zairyo(Journal of Japanese Society for **Biomaterials**), 1998, VOL.16,NO.1, PAGE.36-44, FIG.10, REF.67
JOURNAL NUMBER: X0411AAH ISSN NO: 0910-304X CODEN: SEZAE
UNIVERSAL DECIMAL CLASSIFICATION: 615.461/.466
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Review article
MEDIA TYPE: Printed Publication
ABSTRACT: For the purpose of preserving the cancellous bones as much as possible and revivingg a new surface replacement, we have attempted to develop an artificial articular cartilage, PVA-H. With respect to some of the mechanical properties of this material for an artificial articular cartilage, such as lubricating and shock-absorbing function, we have obtained very encouraging results. The important problem that still remains is how to attach the material to the bone firmly. For that purpose, we infiltrated Poly-Vinyl-**Alcohol** solution into the pores of titanium fiber mesh and bind these **two** materials by gelling the PVA, thus obtaining composite material. These composite materials were **implant**ed into both femoral condyles of twelve dogs under the load-bearing condition. As results, sufficient bone ingrowth into the pores of titanium fiber mesh was observed 8 weeks after the **implant**ation and composite material was firmly attached to neighboring bones due to the bone ingrowth. Because another important prerequisite for **prosthesis** , the wear resistant properties, was improved remarkably by gamma irradiation, this composite material appeared to be a very promising **joint** material. The partial replacement of the femoral head in aseptic necrosis, an artificial intervertebral disc and surface arthroplasty of non-weight bearing **joints** have been considered for clinical applications and are now being investigated. (author abst.)

31/7/32 (Item 32 from file: 94)

DIALOG(R)File 94:JICST-EPlus

03485383 JICST ACCESSION NUMBER: 98A0280378 FILE SEGMENT: JICST-E
An experimental study on tissue reaction to particles of various biomaterials in total joint replacement.
SAWADA KOHEI (1)
(1) Kyoto Prefect. Univ. of Med.
Kyoto Furitsu Ika Daigaku Zasshi(Journal of Kyoto Prefectural University of Medicine), 1998, VOL.107,NO.2, PAGE.237-250, FIG.15, REF.34
JOURNAL NUMBER: Z0618AAE ISSN NO: 0023-6012
UNIVERSAL DECIMAL CLASSIFICATION: 615.461/.466
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: "Loosening" is the most frequently observed **long**-term complication following **joint** replacement. Its cause is thought to be foreign-body reaction of the tissues against wear particles of various **biomaterials**. However, relationship between the size and type of **biomaterials** and tissue reaction has not been fully clarified. In the present study, the following 8 materials were surgically inserted to the knee **joints** of Japanese white rabbits, and histological reaction was examined: (1) ultra-high molecular weight **polyethylene** (UHMWPE, mean diameter: 11.MU.m), (**2**) UHMWPE (99.MU.m) (3) cobalt chrome alloy (Co-26Cr-6Mo, 3.9.MU.m), (4) stainless steel (SUS316L, 3.9.MU.m), (5) alumina ceramics (Al2O3, 3.9.MU.m), (6) titanium alloy (Ti-6Al-4V, 3.5.MU.m), (7) Co-26Cr-6Mo (0.03.MU.m) and (8) Ti-6Al-4V (0.03,.MU.m). Each type of particles was placed in the 6-mm **long** groove on a 12-mm **long** polymethylmethacrylate(PMMA) plug (diameter: 3mm), and the particles were aseptically inserted into the medullary canal at the distal end of the femur. Four or 12 weeks after the insertion, tissue specimens were resected, decalcified, cut into transverse sections, and stained with hematoxylin and eosin, in order to monitor tissue conditions around the particles. As a result, numerous histiocytes were accumulated around the particles of 11-.MU.m UHMWPE, 3.9-.MU.m and 0.03-.MU.m Co-26Cr-6Mo, 3.9-.MU.m SUS316L, and 0.03-.MU.m Ti-6Al-4V. Around the 99-.MU.m UHMWPE particles, slight histiocytic infiltration and bone ingrowth were observed. 3.9-.MU.m Al2O3, 3.5-.MU.m Ti-6Al-4V, and even phagocytes, induced weak tissue reaction. These findings demonstrate that in vivo tissue reaction varies according to **biomaterials** and particle sizes. (author abst.)

31/7/35 (Item 35 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01248404 F98090292963
A multidirectional motion pin-on-disk wear test method for prosthetic joint materials
Saikko, V
Helsinki Univ. of Technol., SF
Journal of Biomedical Materials Research, v41, n1, pp58-64, 1998
Document type: journal article Language: English
Record type: Abstract
ISSN: 0021-9304
ABSTRACT:

A realistic pin-on-disk wear test method for **prosthetic joint** materials has been developed. The new method, called CTPOD (circularly translating pin-on-disk), yields wear rates and wear mechanisms similar to those observed in retrieved **polyethylene** actetabular cups. In the established methods, where a **polyethylene** specimen slides against a unidirectionally rotating, or reciprocating, metallic or ceramic conterface, the wear rate typically is **two** orders of magnitude too low. In the present study, also, the reciprocator gave negligible wear. In the CTPOD method, considerable wear occurs because the direction of sliding rotates relative to the **polyethylene** pin, hence, the molecular orientation effect of **polyethylene** is avoided.

31/7/40 (Item 40 from file: 144)
DIALOG(R)File 144:Pascal

14725016 PASCAL No.: 00-0401193
Biocompatibility of prosthetic joint materials (Part 1): Evaluation of passivation film damage on metal surface associated with sliding motion
MORITA M; INOUE Y; SASADA T
Department of Biomedical Engineering, Kitasato University, School of Medicine, 15-1, Kitasato 1-chome, Sagamihara-shi, Kanagawa 228-0829, Japan; Department of Preventive Medicine and Public Health Science, Kitasato University, School of Medicine, 15-1, Kitasato 1-chome, Sagamihara-shi, Kanagawa 228-0829, Japan; Faculty of Precision Engineering, Chiba Institute of Technology, 17-1, Tsudanuma 2-chome, Narashino-shi, Chiba 275-0016, Japan
Journal: Japanese journal of tribology, 1998, 43 (5) 653-663
ISSN: 1045-7828 Availability: INIST-26660; 354000090994420110
No. of Refs.: 12 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English
To provide good **biocompatability** in metal **implants** , it is necessary to maintain a good passivation film on them. To determine friction environment allowing a passivation film to be maintained on artificial **joint** material in a living body, friction tests of 316L stainless steel, Co-28Cr-6Mo alloy and Ti-6Al-4V alloy have been performed in quasi-bodily fluid and under normal pressure in friction. Resulting damage of passivation films has been measured by an electrochemical technique. (1) In sliding of a metal pair in PBS(-) solution it is found that even at low contact surface pressures the passivation film almost completely breaks immediately after the start of sliding; therefore, in the case of metal-metal type artificial **joints** , the maintenance of a passivation film is difficult to realize. (**2**) In sliding **UHMWPE** against metal, significant damage to the passivation film occurs immediately after the start of sliding, but with the passage of the time of sliding the passivation film recovers and assumes a polarization voltage intrinsic to the respective metal. The level of passivation film damage when 316L steel and Co-Cr alloy are used amounts to 60% if the contact surface pressure exceeds 20 MPa. On the other hand, the level of damage to the passivation film in the case of Ti alloy reaches 70% at the contact surface pressure of 10 MPa and increases with an increase in contact surface pressure. (3) At the compression of a metal pin test specimen against UHMWPE creep deformation of the latter takes place and the level of damage of the passivation film increases.

31/7/44 (Item 44 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01363111 19991104901
Effect of protein lubrication on the wear properties of materials for prosthetic joints
(Auswirkungen einer Schmierung mit Proteinen auf die Abriebeigenschaften von Materialien fuer Gelenkprothesen)
Yen-Shuo Liao; Benya, PD; McKellop, HA
Los Angeles Orthopaedic Hospital, USA; Univ of Southern California, Los Angeles, USA
Journal of Biomedical Materials Research, v48, n4, pp465-473, 1999
Document type: journal article Language: English
Record type: Abstract
ISSN: 0021-9304
ABSTRACT:
The effects of pre-dilution and other modifications of bovine serum lubricants on the wear properties of UHMW **polyethylene** acetabular cups were evaluated in a hip **joint** simulator. The wear rate increased, and a nonphysiological type of surface-pitting occurred, when the serum was pre-diluted to 40 % or lower concentration. During the wear tests, the equilibrium temperature and the precipitation of proteins were substantially greater with zirconia balls than with cobalt-chromium. Protein precipitation, a potential modulator of in vitro wear, was shown to be temperature-, concentration- and time-dependant in water-bath tests, which indicated that ball-cup interface temperatures in the simulator must be above 60 deg C, i.e, well above the bulk lubricant temperature, to account for wear test protein precipitation. Several modifications of serum that were, in part, intended to decrease the tendency for protein precipitation were found to markedly affect the wear properties of the **two** combinations of materials. In particular, modified serum, which lacked some of the higher molecular weight proteins, produced a much higher wear rate than a control serum with the same initial protein concentration. The results indicated directions for further research to clarify the lubrication properties of serum, and for developing a universal standard test lubricant.

31/7/45 (Item 45 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01363110 19991104902
Prevention of fatigue cracks in ultrahigh molecular weight polyethylene joint components by the addition of vitamin E
(Vermeidung von Rissbildung auf Grund von Materialermuedung bei Gelenkteilen aus UHMW-Polyaethylen durch Zugabe von Vitamin E)
Tomita, N; Kitakura, T; Onmori, N; Ikada, Y; Aoyama, E
Kyoto Univ., J
Journal of Biomedical Materials Research, v48, n4, pp474-478, 1999
Document type: journal article Language: English
Record type: Abstract
ISSN: 0021-9304
ABSTRACT:
Flaking-type wear, so-called delamination, is often observed in **polyethylene joint** components. This is thought to occur partly due to

crack formation and propagation at grain boundaries. The study examined the effect of vitamin E on the crack formation and/or propagation in ultrahigh molecular weight **polyethylene** (UHMWPE) by using **2** -dimensional sliding fatigue testing and micro indenter testing. An in vitro sliding fatigue test was performed under **two** simplified articulating movements, and the cracks produced were observed by scanning acoustic tomography (SAT). Gamma-irradiated UHMWPE specimens demonstrated a smaller area of accumulated cracks as compared to virgin specimens, when the loading movement was reciprocated on a single linear locus. However, four out of five gamma-irradiated UHMWPE specimens exhibited severe flaking-like destruction under the complicated sliding condition, suggesting that gamma-irradiation accelerated crack propagation under multidirectional loading. All the gamma-irradiated vitamin-E-containing specimens demonstrated no subsurface crack formation and no flaking-like destruction. Results using micro indenter testing showed that the dynamic hardness at grain boundary was higher than that in grain, and was increased by gamma irradiation. This hardening at grain boundary was reduced by adding vitamin E. It is possible that the presence of vitamin E prevents crack propagation partly due to reduced hardness at grain boundaries. The gamma-irradiated vitamin-E-containing UHMWPE is a promising material to prevent flaking-like destruction of **polyethylene** **joint** components.

35/7/1 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal
(c) 2006 INIST/CNRS. All rts. reserv.
11519086 PASCAL No.: 94-0360066
Studies on a novel anterior cruciate ligament polyethylene fiber prosthesis : the histomotphological pattern of organization and bony anchorage of a polyethylene fiber prosthesis in the stifle of the goat
Synthetic ligament replacement and augmentation
BOSS J H; SHAJRAWI I; SOUDRY M; ANULLAH J; SOLOMON H; MENDES D G
Bnai Zion medical cent., dep. pathology, Haifa 31048, Israel
Journal: Clinical materials, 1994, 15 (1) 61-67
ISSN: 0267-6605 Availability: INIST-21655; 354000049047860080
No. of Refs.: 30 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United Kingdom
Language: English
The anterior cruciate ligament of goats was substituted by a high-tensile **polyethylene** fiber **prosthesis** . The animals were sacrificed after 6-12 months. Histologically, the **implants** were separated from a newly formed bony shell by a thick fibrous interface membrane, which was anchored to the bone by Sharpey-like fibers. Within the **joint** **cavity** , the **implants** were enclosed in thick fibrous sheaths, which were continuous with the intra-osseous interface membranes. While the inner granulomatous layer of the interface membrane extended inbetween the **polyethylene** fibrils for a short distance, the bulk of the **prosthesis** was poorly organized. A thick central fibrous band accompanied the intra-osseous and intra-articular portions of the **implants** throughout their entire **lengths**

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File  34:SciSearch(R) Cited Ref Sci 1990-2006/Jan W2
        (c) 2006 Inst for Sci Info
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
        (c) 1998 Inst for Sci Info
File 323:RAPRA Rubber & Plastics 1972-2006/Nov
         (c) 2006 RAPRA Technology Ltd
File   6:NTIS 1964-2006/Jan W3
        (c) 2006 NTIS, Intl Cpyrght All Rights Res
File   8:Ei Compendex(R) 1970-2006/Jan W3
        (c) 2006 Elsevier Eng.  Info. Inc.
Set     Items   Description
S1       5435   JOINT? ?(2N)(CAVITY OR CAVITIES OR HOLE OR HOLES OR APERTU-
            RE? ? OR SPACE? ? OR OPENING? ? OR HOLLOW? ?)
S2     134175   PROSTHES?S OR PROSTHETIC? ? OR IMPLANT? ?
S3      92902   CHAIN? ?(5N)(LENGTH OR LONG OR LONGER OR SHORTER)
S4    1174480   POLYMER??
S5      16712   POLYETHYLENE()OXIDE? OR POLYVINYLPYRROLIDONE OR POLYVINYL(-
            )PYRROLIDONE
S6     171619   POLYACRYLATE? OR POLYSTYRENE OR POLYETHER? OR POLYVINYLALC-
            OHOL OR POLYVINYL()ALCOHOL
S7     249883   POLYETHYLENE OR POLYPROPYLENE
S8      48574   BIOCOMPATIB? OR BIOMATERIAL?
S9          5   S1 AND S2 AND S4:S7 AND S8
S10         5   RD  (unique items)
S11        53   S1 AND S2 AND S4:S7
S12         0   S3 AND S11
S13        70   S2 AND S4:S7 AND S3
S14    389127   JOINT? ? OR KNEE? ? OR HIP OR HIPS
S15         5   S13 AND S14
S16         5   S15 NOT S9
S17         5   RD  (unique items)
S18        65   S13 NOT (S9 OR S15)
S19        52   RD  (unique items)
S20         2   S19/2000
S21         4   S19/2001
S22         3   S19/2002
S23         2   S19/2003
S24         3   S19/2004
S25         5   S19/2005:2006
S26        33   S19 NOT S20:S25
S27        33   Sort S26/ALL/PY,A

10/7/5     (Item 3 from file: 323)
DIALOG(R)File 323:RAPRA Rubber & Plastics
 (c) 2006 RAPRA Technology Ltd. All rts. reserv.
00046622
TITLE: WEAR RESISTANT MATERIAL FOR TOTAL JOINT REPLACEMENT - TISSUE
    BIOCOMPATIBILITY  OF AN ULTRA-HIGH MOLECULAR WEIGHT (UHMW)
    POLYETHYLENE -GRAPHITE COMPOSITE
AUTHOR(S): TETIK R D;  GALANTE J O;  ROSTOKER W
SOURCE: Journal of Biomedical Materials Research; 8, No.5, Sept.1974,
    p.231-50
ISSN: 0021-9304
CODEN: JBMRBG  JOURNAL ANNOUNCEMENT: 197503  RAPRA UPDATE: 198201
DOCUMENT TYPE: Journal Article
LANGUAGE: English
```

ABSTRACT: TISSUE REACTION IN EXPERIMENTAL ANIMALS (MONKEYS AND RABBITS) WAS INVESTIGATED FOR **ULTRA-HIGH MOLEC. WT. PE**, GRAPHITE POWDER AND ULTRA-HIGH MOLEC. WT. PE-GRAPHITE COMPOSITE. THE MATERIALS WERE EVALUATED IN BOTH SOLID AND PARTICULATE FORMS AFTER **IMPLANT**ATION IN BONE, **JOINT CAVITIES** AND PARAVERTEBRAL MUSCLES FOR PERIODS UP TO ONE YEAR. ALL MATERIALS SHOWED GOOD TISSUE ACCEPTANCE IN SOLID FORM ALTHOUGH THE UHMWPE AND THE COMPOSITE WERE MORE REACTIVE THAN HIGH PURITY GRAPHITE OR STEEL. THE COMPOSITE IS SUGGESTED FOR USE IN HIP ARTHROPLASTIES BECAUSE OF ITS SUPERIOR WEAR RESISTANCE COMPARED WITH UHMWPE. 33 REFS.

17/6/5 (Item 2 from file: 8)
00467821
Title: DEGREE OF POLYMERIZATION OF ACRYLIC BONE.
Publication Year: 1975

17/7/4 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03430191 E.I. Monthly No: EIM9205-024777
Title: Tribological behaviour of various materials and surfaces against polyethylene .
Author: Streicher, R. M.; Schoen, R.
Corporate Source: SULZERmedica, Winterthur, Switz
Conference Title: 17th Annual Meeting of the Society for **Biomaterials** in conjunction with the 23rd International **Biomaterials** Symposium
Conference Location: Scottsdale, AZ, USA Conference Date: 19910501
E.I. Conference No.: 15731
Source: Transactions of the Annual Meeting of the Society for **Biomaterials** in conjunction with the International **Biomaterials** Symposium v 14. Publ by Soc for **Biomaterials**, Algonquin, IL, USA. p 289
Publication Year: 1991
CODEN: TAMSEN
Language: English
Document Type: PA; (Conference Paper) Treatment: X; (Experimental); A; (Applications)
Journal Announcement: 9205
Abstract: It is shown that ultra-high-molecular weight **polyethylene** is such a good friction partner for various metallic and ceramic materials mainly because of its high molecular weight with the entanglement of the **long chains** , which act as physical **cross-linking** sites. In addition the paraffin-like molecular surface with its zig-zag structure results in the good sliding properties. The low elasticity modulus of UHMWPE, together with the only weak Van der Waal's binding forces of this **polymer** , makes it possible to adapt the surface by creep. For the Co-28Cr-6Mo-0.2C cast alloy a linear relationship was found between the roughness of the discs and the **polyethylene** wear rate. For the forged alloy Protasul-21WF, with smaller interdendritic M//7C//3 carbides, the roughness is reduced and this effect used to advantage.

27/6/22 (Item 22 from file: 323)
00660619
TITLE: EFFECT OF CROSSLINKING AGENTS ON POLY(METHYL METHACRYLATE) BONE CEMENTS

27/7/9 (Item 9 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03068706 E.I. Monthly No: EI9106071307
Title: Organic polymer surfaces for use in medicine. Their formation, modification, characterisation and application.
Author: Braybrook, Julian H.; Hall, Laurance D.
Corporate Source: Univ of Cambridge Sch of Clinical Medicine, Cambridge, Engl
Source: Progress in **Polymer** Science (Oxford) v 15 n 5 1990 p 715-734
Publication Year: 1990
CODEN: PRPSB8 ISSN: 0079-6700
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); G; (General Review); L; (Literature Review/Bibliography)
Journal Announcement: 9106
Abstract: Demand is growing for **biomaterial** usage in dialysis and immobilisation of enzymes and as artificial cells, organs and **prostheses**, tissue adhesives and cements, plasma extenders, and controlled drug release agents. **Polymers** are frequently difficult to characterise accurately and often have variable **chain length** and molecular weight distribution. Furthermore, there may be problems associated with manufacturing methods, fabrication, sterilisation and component-**polymer**isation. Nevertheless, the final products are generally relatively light-weight, easily processed and shaped, have good versatility and give a better balance between weight and mechanical, chemical and physical properties than simpler materials. In addition, they may be fabricated with a specific biological function and compatibility. This review will examine the formation, modifications, applications and limitations of some organic **polymer** surfaces in man. 194 Refs.

27/7/13 (Item 13 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03709173 E.I. No: EIP93071017819
Title: Physical aging behavior of a series of biodegradable polymers as a function of the pendent- chain length
Author: Bron, Samuel; Fiordeliso, James; Kohn, Joachim
Corporate Source: Rutgers State Univ of New Jersey, Piscataway, NJ, USA
Conference Title: Proceedings of the 1993 IEEE 19th Annual Northeast Bioengineering Conference
Conference Location: Newark, NJ, USA Conference Date: 19930318-19930319
Sponsor: New Jersey Inst of Technology; Rutgers Univ; IEEE; The Whitaker Foundation
E.I. Conference No.: 18639
Source: Bioengineering, Proceedings of the Northeast Conference 1993. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA. p 145-147
Publication Year: 1993
CODEN: BENYDB ISBN: 0-7803-0925-1
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications); X ; (Experimental)
Journal Announcement: 9311W2
Abstract: The physical aging behavior of a series of tyrosine-containing

polyarylates was investigated as a function of the **length** of the alkyl pendent **chain** . The experiments were performed in a differential scanning calorimeter (DSC) at corresponding aging temperatures. It was found that the physical aging efficiency was strongly affected by small changes in the **length** of the pendent **chain** (2, 6, or 8 methylene units). For similar cooling rates from above T//g to below T//g and identical aging times, the enthalpy relaxation decreased with the **length** of the pendent **chain** . A free volume based explanation is suggested. (Author abstract) 16 Refs.

27/7/15 (Item 15 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2006 Inst for Sci Info. All rts. reserv.
04320319 Genuine Article#: RV760 Number of References: 10
Title: POLY(ETHYLENE GLYCOL)-SERUM ALBUMIN HYDROGEL AS MATRIX FOR ENZYME IMMOBILIZATION - BIOMEDICAL APPLICATIONS
Author(s): DURSO EM; JEANFRANCOIS J; DOILLON CJ; FORTIER G
Corporate Source: UNIV QUEBEC,DEPT CHIM BIOCHIM,RECH BIOTHERAPEUTMOLEC GRP,ENZYMOL APPL LAB,CP 8888/MONTREAL/PQ H3C 3P8/CANADA/; HOP ST FRANCOIS ASSISE,INST BIOMAT E0678/QUEBECCITY/PQ G1L 3L5/CANADA/
Journal: ARTIFICIAL CELLS BLOOD SUBSTITUTES AND IMMOBILIZATION BIOTECHNOLOGY, 1995, V23, N5, P587-595
ISSN: 1073-1199
Language: ENGLISH Document Type: ARTICLE
Abstract: Poly(ethylene glycol)-albumin hydrogels were **implant**ed in mice in subcutaneous position to study their **biocompatib**ility. After one month of **implant**ation, the fibrous capsule formed around the **implant** was thin and the inflammatory tissue was limited. Acid phosphatase (AP) was selected to evaluate the hydrogel as matrix for enzyme immobilization. AP-hydrogels were prepared using activated PEG (PEGa) of different molecular weigths (M.W. 4 600 to 20 000) to evaluate the effect of the matrix composition on the activity of AP. The apparent Km of the immobilized AP was 16 to 20 times higher than the Km of the soluble enzyme. The apparent Km value decreases with the increase of the **chain length** of the PEGa used. This can be correlated to an increase in the hydrogel porosity. The operational stability of the AP was markedly improved after immobilization by 110 to 160 times according to the PEGa molecular weigth involved. Also, asparaginase (ASNase) was immobilized in PEGa(M.W. 10 000)-albumin-hydrogel as a model for in vivo bioreactor. ASNase hydrogels were **implant**ed in the peritoneal **cavity** of rats; 7 days later, 75% of the initial enzyme activity were retrieved.

27/7/16 (Item 16 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2006 Inst for Sci Info. All rts. reserv.
05309545 Genuine Article#: VP508 Number of References: 6
Title: HIGH-AFFINITY POLYETHYLENE OXIDE FOR IMPROVED BIOCOMPATIBILITY
Author(s): NELSON KD; EISENBAUMER R; POMERANTZ M; EBERHART RC
Corporate Source: UNIV TEXAS,DEPT BIOMED ENGN,BOX 19138/ARLINGTON//TX/76019 ; UNIV TEXAS,DEPT CHEM/ARLINGTON//TX/76019; UNIV TEXAS,SW MED CTR,DEPT SURG/DALLAS//TX/75235
Journal: ASAIO JOURNAL, 1996, V42, N5 (SEP-OCT), PM884-M889
ISSN: 1058-2916
Language: ENGLISH Document Type: ARTICLE
Abstract: Albumin passivation methods are based on the premise that a

confluent layer of conformationally intact albumin will provide a **biocompatib**le surface. However, albumin in contact with foreign surfaces tends to denature, and other proteins will adsorb to the surface, making the albumin passivation theory difficult to test. To overcome these two limitations, it was necessary to have a nondenaturing ligand specific for albumin attached to the surface by a **long chain polyethylene oxide** (PEG), which is known to have low protein binding. Clinical reports suggest no denaturation of albumin upon binding with warfarin, a drug known to have igh albumin affinity. Thus, we tethered warfarin to glass ead surfaces previously coated with poly(methyl-co-aminopropyl)siloxane (PMAS) by means of a 4.6 kilodalton PEO **chain**. This would provide a surface that may come close to satisfying the conditions of the albumin passivation theory. Platelet adhesion and activation on warfarin treated surfaces was reduced compared to several controls, including: PEO PMAS, and a ligand containing mercury, which also is tethered to PMAS by PEO. We conclude that the warfarin ligand, when tethered to surfaces by PEO, demonstrates improved **biocompatib**ility. This treatment is promising for **implant** applications.

27/7/19 (Item 19 from file: 323)
DIALOG(R)File 323:RAPRA Rubber & Plastics

00616601
TITLE: NEW BIOMATERIALS FOR TISSUE ENGINEERING
AUTHOR(S): James K; Kohn J
SOURCE: MRS Bulletin; 21, No.11, Nov.1996, p.22-6
ISSN: 0883-7694
JOURNAL ANNOUNCEMENT: 199703 RAPRA UPDATE: 199704
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: Pseudo-poly(amino acid)s, specifically tyrosine-derived polycarbonates and polyarylates, are new biodegradable materials. As a robust alternative to the commonly used polyesters, these materials appear to offer improved bone compatibility, the ability to regenerate a series of materials allowing for variations in key mechanical and cellular response properties, and facilities to covalently **link** bioactive molecules as pendant **chains**. Leaching methods, used to fabricate poly(lactic acid) scaffolds, were successfully adapted to tyrosine-derived polycarbonates. Tissue engineering research utilising these materials has only recently commenced and is focused in the area of bone regeneration. 41 refs.

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File   9:Business & Industry(R) Jul/1994-2006/Jan 20
         (c) 2006  The Gale Group
File  16:Gale Group PROMT(R) 1990-2006/Jan 23
         (c) 2006 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 149:TGG Health&Wellness DB(SM) 1976-2006/Jan W3
         (c) 2006 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2006/Jan 23
         (c)2006 The Gale Group
File 129:PHIND(Archival) 1980-2006/Jan W3
         (c) 2006 T&F Informa UK Ltd
File 135:NewsRx Weekly Reports 1995-2006/Jan W3
         (c) 2006 NewsRx
File 441:ESPICOM Pharm&Med DEVICE NEWS 2006/Oct W3
         (c) 2006 ESPICOM Bus.Intell.
File 621:Gale Group New Prod.Annou.(R) 1985-2006/Jan 23
         (c) 2006 The Gale Group
File 636:Gale Group Newsletter DB(TM) 1987-2006/Jan 23
         (c) 2006 The Gale Group
Set     Items   Description
S1       5402   JOINT? ?(2N)(CAVITY OR CAVITIES OR HOLE OR HOLES OR APERTU-
            RE? ? OR SPACE? ? OR OPENING? ? OR HOLLOW? ?)
S2     101610   PROSTHES?S OR PROSTHETIC? ? OR IMPLANT? ?
S3      24088   CHAIN? ?(5N)(LENGTH OR LONG OR LONGER OR SHORTER)
S4     277539   POLYMER??
S5       1260   POLYETHYLENE()OXIDE? OR POLYVINYLPYRROLIDONE OR POLYVINYL(-
            )PYRROLIDONE
S6      56991   POLYACRYLATE? OR POLYSTYRENE OR POLYETHER? OR POLYVINYLALC-
            OHOL OR POLYVINYL()ALCOHOL
S7     173508   POLYETHYLENE OR POLYPROPYLENE
S8      25315   BIOCOMPATIB? OR BIOMATERIAL?
S9     205907   HIP OR HIPS OR KNEE OR KNEES
S10        22   S1(S)S2
S11         5   S10 AND S4:S7
S12         0   S8 AND S11
S13         5   RD S11  (unique items)
S14         0   S10 (S)S3
S15        17   S10 NOT S11
S16        17   Sort S15/ALL/PD,A [not relevant]

 13/7/5     (Item 2 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2006 The Gale Group. All rts. reserv.
02360171    Supplier Number: 44637649  (THIS IS THE FULLTEXT)
Studies on a novel anterior cruciate ligament  polyethylene  fibre
  prosthesis: the histo- morphological pattern of organization and bony
  anchorage of a  polyethylene  fibre prosthesis in the stifle of a goat
Biomedical Materials, pN/A
May, 1994
TEXT:
A thick central fibrous band accompanied the intra-osseous and intra
-articular portions of the  implants  throughout their entire lengths.
Oblique fibrous tracks linked the interface membranes with the central
fibrous bands. The intra-osseous tunnels were considerably expanded when
compared to the initially drilled tunnels. The  implants  were separated
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from a newly formed bony shell by a thick fibrous interface membrane which was anchored to the bone by Sharpey like fibres. Within the **joint cavity**, the **implants** were enclosed in thick fibrous sheaths, which were continuous with the intra -osseous interface membranes. While the inner granulomatous layer of the interface membrane extended in between the **polyethylene** fibrils for a short distance, the bulk of the **prosthesis** was poorly organised. Boss J H. et al., Clinical Materials, 15, 1, 1994, p.61-76; Department of Pathology, Bnai Zion Medical Center, PO Box 4940, Haifa 31048, Israel.

[redacted]

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File 350:Derwent WPIX 1963-2006/UD,UM &UP=200605
         (c) 2006  Thomson Derwent
File 347:JAPIO Nov 1976-2005/Aug(Updated 051205)
         (c) 2005 JPO & JAPIO
Set     Items   Description
S1       7792   JOINT? ?(2N)(CAVITY OR CAVITIES OR HOLE OR HOLES OR APERTU-
             RE? ? OR SPACE? ? OR OPENING? ? OR HOLLOW? ?)
S2      68134   PROSTHES?S OR PROSTHETIC? ? OR IMPLANT? ?
S3      24434   CHAIN? ?(5N)(LENGTH OR LONG OR LONGER OR SHORTER)
S4    1625625   POLYMER??
S5      22593   POLYETHYLENE()OXIDE? OR POLYVINYLPYRROLIDONE OR POLYVINYL(-
             )PYRROLIDONE
S6     215207   POLYACRYLATE? OR POLYSTYRENE OR POLYETHER? OR POLYVINYLALC-
             OHOL OR POLYVINYL()ALCOHOL
S7     342967   POLYETHYLENE OR POLYPROPYLENE
S8      11989   BIOCOMPATIB? OR BIOMATERIAL?
S9        167   S1 AND S2
S10        45   S4:S7 AND S9
S11        11   S8 AND S10
S12        11   S11/2000:2006
S13         2   S10 AND S3 [duplicates]
S14         0   S13 NOT S11
S15    126999   IC=A61F? OR IC=A61L-027?
S16     10924   S1:S2 AND S4:S7
S17      5809   S16 AND S15
S18        89   S3 AND S8
S19        33   S15 AND S18
S20        31   S19 NOT (S11 OR S13)
S21         7   S20/2000
S22        15   S20/2001:2002
S23        15   S20/2003
S24        12   S20/2004
S25        15   S20/2005:2006
S26         3   S20 NOT S21:S25
S27        28   S21:S25 NOT S26

 11/7/1     (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006  Thomson Derwent. All rts. reserv.
017351447    **Image available**
WPI Acc No: 2005-675089/200569
   Prosthetic  system for implantation into knee joint compartment between
  femoral condyle and its corresponding tibial plateau, comprises meniscal
  component movable with respect to tibial component
Patent Assignee: FELL B M (FELL-I)
Inventor: FELL B M
Number of Countries: 001  Number of Patents: 001
Patent Family:
Patent No     Kind   Date    Applicat No    Kind   Date     Week
US 20050209703  A1  20050922  WO 99US7309     A   19990402  200569  B
                            US 99297943     A   19990510
                            US 2000664939   A   20000919
                            US 2001934364   A   20010821
                            US 2002232608   A   20020830
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US 2005117838 A 20050429

Priority Applications (No Type Date): US 2005117838 A 20050429; WO 99US7309 A 19990402; US 99297943 A 19990510; US 2000664939 A 20000919; US 2001934364 A 20010821; US 2002232608 A 20020830

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20050209703	A1		16	A61F-002/38	Cont of application WO 99US7309 Cont of application US 99297943 CIP of application US 2000664939 Cont of application US 2001934364 CIP of application US 2002232608 Cont of patent US 6206927 CIP of patent US 6558421

Abstract (Basic): US 20050209703 A1

NOVELTY - **Prosthetic** system (100) comprising a tibial component (120') arranged to be fixed to a tibial plateau, and a meniscal component (150) having bottom face arranged to engage a top face of the tibial component to form the assembled **prosthetic** system, is new. The meniscal component is movable with respect to the tibial component.

DETAILED DESCRIPTION - **Prosthetic** system comprising a tibial component arranged to be fixed to a tibial plateau and having a top face including a flat surface and an opposed bottom face; and a meniscal component having an elliptical shape in plan, is new. The meniscal component has a top face and an opposed bottom face including a flat surface. The meniscal component bottom face is arranged to engage the tibial component top face to form the assembled **prosthetic** system. The meniscal component is movable with respect to the tibial component.

An INDEPENDENT CLAIM is also included for **implant**ation of the **prosthetic** system into a knee **joint** compartment between a femoral condyle and its corresponding tibial plateau comprising:

(a) surgically exposing the knee **joint** compartment;

(b) inserting the tibial component into the knee **joint** compartment;

(c) fixing the tibial component to the tibial plateau; and

(d) inserting the meniscal component into the knee **joint** compartment proximal to the tibial component so that the meniscal component bottom face engages the tibial component top face to form the assembled **prosthetic** system.

USE - For **implant**ation into a knee **joint** compartment between a femoral condyle and its corresponding tibial plateau (claimed).

ADVANTAGE - The inventive **prosthetic** system effectively restores the normal **joint** alignment and provides a smooth bearing surface against which the femoral condyle can articulate. It minimizes articulation of the femoral condyle against the tibial plateau, thus preventing further degradation of the tibial surface. By occupying the **joint space** and retensioning the collateral ligaments, the **prosthetic** system improves **joint** stability and restores the limb to a more normal mechanical alignment.

DESCRIPTION OF DRAWING(S) - The figure is a top perspective view of a **prosthetic** system having the tibial component and the meniscal component.

Prosthetic system (100)
Tibial component (120')
Meniscal component (150)
pp; 16 DwgNo 11/16

Derwent Class: B07; D22; P32

International Patent Class (Main): A61F-002/38

DATE **11/7/2** **(Item 2 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

017093295 **Image available**
WPI Acc No: 2005-417623/200542
Interpositional arthroplasty system for repairing ginglymus joints e.g. joints of ankle, has tibiotalar implant that provides surface to be positioned against tibia and surface to be positioned against talus, and/or talus-calcaneus implant
Patent Assignee: ADVANCED BIO SURFACES INC (ADBI-N)
Inventor: FELT J C; MCGARVEY S; RYDELL M A
Number of Countries: 108 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200548872	A2	20050602	WO 2004US20456	A	20040625	200542	B

Priority Applications (No Type Date): US 2003483499 P 20030627
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200548872	A2	E	33	A61F-000/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

Abstract (Basic): WO 200548872 A2

NOVELTY - An interpositional arthroplasty system for use in repairing ginglymus **joints** e.g. **joints** of ankle, comprises tibiotalar **implant** (112) that provides first major surface to be positioned against tibia (120) and second major surface to be positioned against talus (108); and/or talus-calcaneus **implant** that provides first major surface adapted to be positioned against a talus and second major surface adapted to be positioned against calcaneus (110).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(A) a kit for a positional arthroplasty system for use in repairing ginglymus **joints** such as the **joints** of the ankle, comprising at least one **implant** from a tibiotalar **implant** that provides a first major surface adapted to be positioned against a tibia and a second major surface adapted to be positioned against a talus, and a talus-calcaneus **implant** that provides a first major surface adapted to be positioned against a talus and a second major surface adapted to be positioned against a calcaneus; and one or more devices adapted to perform method including preparing the **joint** to receive an **implant** , determining an appropriate **implant** size for a particular **joint**, determining an appropriate **implant** thickness and/or angle, inserting the **implant** into the **joint**, and/or securing the **implant** to a desired extent;

(B) a method of repairing a ginglymus **joint**, comprising the steps of providing and **implanting**;

(C) a ginglymus **joint** that includes an **implant** ;

(D) a kit comprising a tool useful for preparing a **joint** to receive an **implant** , an apparatus useful for determining an appropriate

implant size for the **joint**, an apparatus useful for determining an appropriate **implant** thickness, and a tool useful for inserting the **implant** into the **joint** and/or securing the **implant** to a desired extent; and

(E) a device for **implant**ation into an ankle **joint space** within the body of a mammal, comprising a composite or monolith structure fabricated from a **biocompatible** , biodurable material that is adapted to be inserted into the **joint** compartment.

USE - The interpositional arthroplasty system is used in repairing ginglymus **joints** e.g. **joints** of ankle (claimed).

ADVANTAGE - The system provides an optimal combination of properties such as ease of preparation and use, and performance within the body, and particularly for use in **joints** other than the knee. The **implant**ed device is free of anchoring portions that need to be attached to the bone (102), cartilage, ligaments or other tissue, yet by its design is capable of being used with minimal translation, rotation, or other undesired movement or dislocation within or from the **joint space** . Stability of the device within the **joint space** is provided by the fixation/congruency of the device to the one or the other of the two **joint** members.

DESCRIPTION OF DRAWING(S) - The figure is a side view of a foot and ankle region showing **implants** .

Foot (100)
Bone (102)
Talus (108)
Calcaneus (110)
Tibiotalar **implant** (112)
Subtalar **joint** (114)
Tibia (120)
pp; 33 DwgNo 1/6

Derwent Class: A96; D22; P32
International Patent Class (Main): A61F-000/00

DATE **11/7/3** **(Item 3 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

016857918
WPI Acc No: 2005-182200/200519

Interpositional arthroplasty implant for repairing knee joint has knee implant and structural feature in apposition to natural meniscus to permit retention of implant by meniscus and improve retention of implant itself upon tibial surface

Patent Assignee: ADVANCED BIO SURFACES INC (ADBI-N)
Inventor: BUSCEMI P J; FELT J C; GRIFFIN D; RYDELL M A
Number of Countries: 108 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200516175	A2	20050224	WO 2004US20458	A	20040625	200519	B

Priority Applications (No Type Date): US 2003483500 P 20030627
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200516175	A2	E	40	A61F-000/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ

NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

Abstract (Basic): WO 200516175 A2

NOVELTY - An interpositional arthroplasty **implant** adapted to be retained in position in apposition to a **joint** surface, at least in part, by surrounding healthy tissue comprises a knee **implant** and includes at least one structural feature adapted to be fixedly positioned within and/or in apposition to the natural meniscus to permit the **implant** to be retained by the meniscus and improve the retention of the **implant** itself upon the tibial surface.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a kit for positional arthroplasty system and comprising the **implant** and at least one device adapted to perform at least one step selected from preparing the **joint** to receive the **implant** , determining an appropriate **implant** size for a particular **joint**, inserting the **implant** into the **joint** and/or securing the **implant** .

USE - For repairing a knee **joint** (claimed).

ADVANTAGE - The polyurethane is **biocompatible** with respect to cytotoxicity, sensitization, genotoxicity, chronic toxicity and carcinogenicity; and has a shore hardness of at least less than or equal to 60 D. The **implant** provides various benefits including improved combination of comfort, alignment, cushioning and **long** term performance. The **cavity** is dimensioned and positioned to receive and/or itself be retained within or all of patient's own meniscal tissue. The **implant** is substantially free of anchoring portions that need to be attached to the bone, cartilage, ligaments or other tissue, yet by design is capable of being used with minimal translation, rotation or other undesired movement or dislocation within or from the **joint space**.

pp; 40 DwgNo 0/11

Derwent Class: A25; A96; D22; P32

International Patent Class (Main): A61F-000/00

11/7/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

016847505 **Image available**

WPI Acc No: 2005-171787/200518

Prosthesis for implantation into knee joint compartment between femoral condyle and corresponding tibial plateau, comprises hard body having elliptical shape in plan, and including bottom surface and opposed top surface having flat portion

Patent Assignee: FELL B M (FELL-I)

Inventor: FELL B M

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20050033424	A1	20050210	WO 99US7309	A	19990402	200518 B
			US 99297943	A	19990510	
			US 2000664939	A	20000919	
			US 2001934364	A	20010821	
			US 2002232608	A	20020830	
			US 2004941729	A	20040915	

Priority Applications (No Type Date): US 2004941729 A 20040915; WO 99US7309 A 19990402; US 99297943 A 19990510; US 2000664939 A 20000919; US 2001934364 A 20010821; US 2002232608 A 20020830
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20050033424	A1		14	A61F-002/08	Cont of application WO 99US7309 Cont of application US 99297943 CIP of application US 2000664939 Cont of application US 2001934364 CIP of application US 2002232608 Cont of patent US 6206927 CIP of patent US 6558421

Abstract (Basic): US 20050033424 A1

NOVELTY - A **prosthesis** for **implant**ation into a knee **joint** compartment between femoral condyle and its corresponding tibial plateau, comprises hard body (102) having elliptical shape in plan, and including a bottom surface (104) and an opposed top surface (106). The top surface has a first, flat portion (107).

USE - For **implant**ation into a knee **joint**, for correcting misalignment in an axis of rotation of a knee **joint** (claimed).

ADVANTAGE - Excessive **prosthesis** motion is reduced. The **prosthesis** is a unicompartmental device for minimally invasive, surgical **implant**ation into a knee compartment requiring little or no bone resection. By effectively replacing worn articular material, the **prosthesis** restores the normal **joint** alignment and provides a smooth bearing surface against which the femoral condyle can articulate. Degeneration of the femoral anatomy is reduced because the conforming femoral surface of the **prosthesis** accommodates the complex shape of the femoral condyle in extension and in flexion. The device eliminates articulation of the femoral condyle against the tibial plateau, thus preventing further degradation of the tibial surface. By occupying the **joint space** and retensioning the collateral ligaments, the **prosthesis** improves **joint** stability and restores the limb to a more normal mechanical alignment.

DESCRIPTION OF DRAWING(S) - The figure is a perspective view of an **implant**able knee **prosthesis** .

Body (102)
Bottom surface (104)
Top surface (106)
Flat portion (107)
Concave portion (109)
pp; 14 DwgNo 1/10

Derwent Class: D22; P32
International Patent Class (Main): A61F-002/08

DATE **11/7/6** **(Item 6 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

015514040 **Image available**
WPI Acc No: 2003-576187/200354

Repair of cartilaginous tissue defect involves implanting scaffold into the defect, and administering biological lubricant to the defect where biological lubricant is not crosslinked to scaffold

Patent Assignee: MALAVIYA P (MALA-I); PLOUHAR P L (PLOU-I); SCHWARTZ H E (SCHW-I)

Inventor: MALAVIYA P; PLOUHAR P L; SCHWARTZ H E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030033021	A1	20030213	US 2001305786	P	20010716	200354 B
			US 2002388724	P	20020614	
			US 2002195334	A	20020715	

Priority Applications (No Type Date): US 2002195334 A 20020715; US 2001305786 P 20010716; US 2002388724 P 20020614
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030033021	A1		14	A61F-002/28	Provisional application US 2001305786 Provisional application US 2002388724

Abstract (Basic): US 20030033021 A1

NOVELTY - Repairing cartilaginous tissue defect, comprising **implanting** a scaffold into the defect, and administering a biological lubricant to the defect, where the biological lubricant is not **crosslinked** to the scaffold, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) a cartilage repair device, comprising a synthetic **polymer** scaffold; and the biological lubricant applied to the **polymer** ; and

(b) making the cartilage repair device, comprising providing the scaffold, providing the biological lubricant in liquid form, and wetting the scaffold with the liquid biological lubricant to form a wet **implant** .

USE - For repairing a cartilaginous tissue defect.

ADVANTAGE - The combination of the **biocompatible** scaffold and the biological component produces a synergistic effect. Healing rates and/or quality of healing is better than the healing expected from additive effects of the scaffold or HA alone. The retention of HA at the defect site is not problematic and co-administration of the scaffold and HA does not require HA to be **cross-linked** to the scaffold material.

DESCRIPTION OF DRAWING(S) - The drawing is a diagrammatical view showing a tibial platform below condyles of a femur.

Meniscus (11).

pp; 14 DwgNo 1/12

Derwent Class: A14; A23; A96; B04; B07; D22; P32
International Patent Class (Main): A61F-002/28

DATE **11/7/7** **(Item 7 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

015429948 **Image available**
WPI Acc No: 2003-492090/200346
Repair of cartilagenous tissue defect e.g. in the knee, by implanting scaffold in defect, and administering biological lubricant
Patent Assignee: MALAVIYA P (MALA-I); PLOUHAR P L (PLOU-I); SCHWARTZ H E (SCHW-I)
Inventor: MALAVIYA P; PLOUHAR P L; SCHWARTZ H E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030033022	A1	20030213	US 2001305786	P	20010716	200346 B
			US 2002388724	P	20020614	

US 2002195606 A 20020715
Priority Applications (No Type Date): US 2002195606 A 20020715; US 2001305786 P 20010716; US 2002388724 P 20020614
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 20030033022 A1 16 A61F-002/28 Provisional application US 2001305786
Provisional application US 2002388724
Abstract (Basic): US 20030033022 A1
NOVELTY - Cartilagenous tissue defect e.g. in the knee is repaired by **implant**ing scaffold into the defect, and administering biological lubricant to the defect.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:
(a) a cartilage repair device comprising naturally occurring extracellular matrix and biological lubricant applied to the matrix; and
(b) making a cartilage repair device by providing naturally occurring extracellular matrix, providing biological lubricant in liquid form, and wetting the matrix with the lubricant to form a wet **implant** .
ACTIVITY - Osteopathic. A meniscus was prepared and a small intestine submucosa (SIS) device was inserted into the **space** created and secured by suturing with 5-0 nylon. The incisions were closed and 2 ml of a solution of 1% sodium hyaluronate (molecular weight 2.4-3.6 million Daltons) was injected into the knee **joint cavity** adjacent to the SIS device. After 3 weeks, 95% or more regeneration of the meniscal defect was seen in 2 out of 3 dogs. Moreover the cartilage was mature and was similar in appearance to natural tissue. Use of the SIS **implant** alone without the injections, resulted in approximately 80% tissue regeneration in 1 dog and less than 50% regeneration in 2 of the 3 dogs.
MECHANISM OF ACTION - Cell therapy.
USE - For repairing cartilagenous tissue defect, e.g. in the knee (claimed).
ADVANTAGE - The use of a combination of scaffold containing small intestine submucosa (SIS), and biological lubricant such as hyaluronic acid produces synergistic effect in cartilage repair. Healing rate and/or quantity of healing is better than the healing expected from additive effects of SIS or HA alone.
DESCRIPTION OF DRAWING(S) - The figure is a diagrammatical view showing a tibial platform.
Meniscus (11)
Defect (14)
Space (16)
pp; 16 DwgNo 1/12
Derwent Class: B04; B07; D22; P32
International Patent Class (Main): A61F-002/28
International Patent Class (Additional): A61F-002/38

DATE **11/7/8** **(Item 8 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

015168991 **Image available**
WPI Acc No: 2003-229519/200322
Repairing cartilaginous tissue defect in knee joint cavity , involves implanting scaffold into defect and administering biological lubricant to

defect which does not cross-linked with scaffold
Patent Assignee: DEPUY PROD INC (DEPU-N)
Inventor: MALAVIYA P; PLOUHAR P L; SCHWARTZ H E
Number of Countries: 101 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200307879	A2	20030130	WO 2002US22411	A	20020715	200322	B
EP 1416886	A2	20040512	EP 2002747021	A	20020715	200431	
			WO 2002US22411	A	20020715		
AU 2002316696	A1	20030303	AU 2002316696	A	20020715	200452	
JP 2004535252	W	20041125	WO 2002US22411	A	20020715	200477	
			JP 2003513488	A	20020715		

Priority Applications (No Type Date): US 2002388724 P 20020614; US 2001305786 P 20010716
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200307879	A2	E	31	A61K-000/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

EP 1416886	A2	E		A61F-002/08	Based on patent WO 200307879

Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

AU 2002316696	A1			A61K-000/00	Based on patent WO 200307879
JP 2004535252	W		68	A61F-002/28	Based on patent WO 200307879

Abstract (Basic): WO 200307879 A2

NOVELTY - Repair (M1) of a cartilaginous tissue defect comprising **implanting** a scaffold into the defect and administering a biological lubricant to the defect, is new. The biological lubricant is not **cross-linked** to the scaffold.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a cartilage repair device comprising a synthetic **polymer** scaffold and a biological lubricant applied to the **polymer** ; and

(2) making a cartilage repair device (210), which involves providing a scaffold, providing a biological lubricant in liquid form and wetting the scaffold with the liquid biological lubricant to form a wet **implant** .

USE - (M1) is useful for repairing damaged or diseased cartilage in knee **joint cavity** and in meniscus.

ADVANTAGE - The combination of **biocompatible** scaffold and hyaluronic acid produces synergistic effect and promotes healing rates and/or quality of healing. The biological lubricant plays a role in directly or indirectly influencing cellular behavior by involving in signal transduction alone or in conjunction with other extracellular matrix components such as growth factors, glycoproteins and collagens. Hence the biological lubricant provides both biological function and mechanical function by providing lubrication. The interconnecting pores or voids in the scaffolds facilitates the transport of nutrients and/or invasion of cells into the scaffold.

DESCRIPTION OF DRAWING(S) - The figure shows the **cross**-sectional view of the cartilage repair device **implanted** in subchondral bone.

Cartilage repair device (210)

Anchor (212)
pp; 31 DwgNo 11/12
Derwent Class: B04; D22; P32; P34
International Patent Class (Main): A61F-002/08; A61F-002/28; A61K-000/00
International Patent Class (Additional): A61F-002/38; A61F-002/46; A61L-031/00

DATE **11/7/9** **(Item 9 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

015168986 **Image available**
WPI Acc No: 2003-229514/200322
Repair of cartilaginous tissue defect in knee joint cavity , and meniscus, involves implanting scaffold into defect and administering biological lubricant to defect
Patent Assignee: DEPUY PROD INC (DEPU-N)
Inventor: MALAVIYA P; PLOUHAR P L; SCHWARTZ H E; JENKS P J; LOWER J L; PELO M J; WHALEN T D; ORBAN J M; SINGLA A K; MALAYIVA P; ZANNIS A D
Number of Countries: 101 Number of Patents: 010
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200307787	A2	20030130	WO 2002US22357	A	20020715	200322	B
EP 1416887	A2	20040512	EP 2002750033	A	20020715	200431	
			WO 2002US22357	A	20020715		
AU 2002320512	A1	20030303	AU 2002320512	A	20020715	200452	
AU 2002354911	A1	20030303	AU 2002354911	A	20020715	200452	
AU 2002354912	A1	20030303	AU 2002354912	A	20020715	200452	
AU 2002354913	A1	20030303	AU 2002354913	A	20020715	200452	
AU 2002354915	A1	20030303	AU 2002354915	A	20020715	200452	
JP 2004535243	W	20041125	WO 2002US22357	A	20020715	200477	
			JP 2003513401	A	20020715		
JP 2005193049	A	20050721	JP 2004380779	A	20041228	200548	N
EP 1554989	A1	20050720	EP 2004258075	A	20041223	200548	N

Priority Applications (No Type Date): US 2002388724 P 20020614; US 2001305786 P 20010716; US 2002388713 P 20020614; US 2002388761 P 20020614 ; US 2002392487 P 20020629; US 2002388951 P 20020614; EP 2004258075 A 20041223; JP 2004380779 A 20041228
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200307787	A2	E	35	A61B-000/00	
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW				
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW					
EP 1416887	A2	E		A61F-002/08	Based on patent WO 200307787
Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
AU 2002320512	A1			A61B-000/00	Based on patent WO 200307787
AU 2002354911	A1			A61B-000/00	Based on patent WO 200307784
AU 2002354912	A1			A61B-000/00	Based on patent WO 200307786
AU 2002354913	A1			A61B-000/00	Based on patent WO 200307788
AU 2002354915	A1			A61B-000/00	Based on patent WO 200307789

JP 2004535243 W 75 A61F-002/30 Based on patent WO 200307787
JP 2005193049 A 25 A61F-002/38
EP 1554989 A1 E A61F-002/00
Designated States (Regional): AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR YU
Abstract (Basic): WO 200307787 A2

NOVELTY - Repair (M1) of cartilaginous tissue defect comprising **implanting** a scaffold into the defect and administering a biological lubricant to the defect, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a cartilage repair device (20) comprising naturally occurring extracellular matrix and a biological lubricant applied to the extracellular matrix; and

(2) making a cartilage repair device which involves wetting the naturally occurring extracellular matrix with the liquid biological lubricant to form a wet **implant** .

USE - (M1) is useful for repairing cartilaginous tissue defect in knee **joint cavity** and in meniscus.

ADVANTAGE - The combination of small intestine sub-mucosa and hyaluronic acid produces synergistic effect in cartilage repair. The defects in cartilaginous tissue are repaired efficiently and healed at high rate when compared to individual small intestine sub-mucosa and hyaluronic acid.

DESCRIPTION OF DRAWING(S) - The figure shows an inserted device in a position to be attached to the portions of the meniscus remaining after the injured portion is removed.

Device (20)

pp; 35 DwgNo 3/12

Derwent Class: A96; B04; B07; D16; D22; P31; P32; P34
International Patent Class (Main): A61B-000/00; A61F-002/00; A61F-002/08; A61F-002/30; A61F-002/38
International Patent Class (Additional): A61B-017/064; A61F-002/28; A61L-027/00

DATE **11/7/10** **(Item 10 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
014583827 **Image available**
WPI Acc No: 2002-404531/200243

System for creation or modification of wear surface of orthopedic joint in mammals, comprises partially or fully preformed polymeric components, adapted to be inserted and positioned at joint site to provide implant

Patent Assignee: ADVANCED BIO SURFACES INC (ADBI-N); ARSENYEV A (ARSE-I); BUSCEMI P J (BUSC-I); FELT J C (FELT-I); PORTER C H (PORT-I); RYDELL M A (RYDE-I)
Inventor: ARSENYEV A; BUSCEMI P J; FELT J C; PORTER C H; RYDELL M A
Number of Countries: 097 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200217821	A2	20020307	WO 2001US41908	A	20010828	200243 B
AU 200185488	A	20020313	AU 200185488	A	20010828	200249
US 20020127264	A1	20020912	US 2000228444	P	20000828	200262
			WO 2001US41908	A	20010828	
			US 200298601	A	20020315	

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US 20020173852  A1  20021121  US 2000228444   P   20000828  200279
                              WO 2001US41908  A   20010828
                              US 200298601    A   20020315
                              US 2002121455   A   20020412
                              US 2002167963   A   20020612
US 20020183850  A1  20021205  US 2000228444   P   20000828  200301
                              WO 2001US41908  A   20010828
                              US 200298601    A   20020315
                              US 2002121455   A   20020412
EP 1315470      A2  20030604  EP 2001964653   A   20010828  200337
                              WO 2001US41908  A   20010828
US 20040107000  A1  20040603  US 2000228444   P   20000828  200436
                              WO 2001US41908  A   20010828
                              US 200298601    A   20020315
                              US 2002121455   A   20020412
                              US 2002167963   A   20020612
                              US 2003722019   A   20031124
JP 2004521666   W   20040722  WO 2001US41908  A   20010828  200448
                              JP 2002522799   A   20010828
Priority Applications (No Type Date): US 2000228444 P 20000828; US
  200298601 A 20020315; US 2002121455 A 20020412; US 2002167963 A 20020612;
  US 2003722019 A 20031124
Patent Details:
Patent No  Kind Lan Pg   Main IPC     Filing Notes
WO 200217821  A2 E  53 A61F-002/30
   Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
   CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN
   IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
   PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
   Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
   IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
AU 200185488  A         A61F-002/30   Based on patent WO 200217821
US 20020127264 A1       A61F-002/36   Provisional application US 2000228444

                                      Cont of application WO 2001US41908
US 20020173852 A1       A61F-002/38   Provisional application US 2000228444

                                      Cont of application WO 2001US41908
                                      CIP of application US 200298601
                                      CIP of application US 2002121455
US 20020183850 A1       A61F-002/38   Provisional application US 2000228444

                                      Cont of application WO 2001US41908
                                      CIP of application US 200298601
EP 1315470    A2 E      A61F-002/30   Based on patent WO 200217821
   Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
   LI LT LU LV MC MK NL PT RO SE SI TR
US 20040107000 A1       A61F-002/38   Provisional application US 2000228444

                                      Cont of application WO 2001US41908
                                      CIP of application US 200298601
                                      CIP of application US 2002121455
                                      Div ex application US 2002167963
                                      Div ex patent US 6652587
JP 2004521666 W    136 A61F-002/30   Based on patent WO 200217821
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Abstract (Basic): WO 200217821 A2

NOVELTY - A system for creation or modification of wear surface of an orthopedic **joint** within a mammalian body, comprises one or more partially or fully preformed **polymeric** components, adapted to be inserted and positioned at the **joint** site to provide an **implant** (10) having first major surface(s) (12) in apposition to supporting bone, and second major surface(s) (14) in apposition to opposing bone.

USE - For repairing variety of mammalian **joints**, such as tibial plateau of knee, acetabulum of hip, glenoid of shoulder, acromion process of shoulder, acromio-clavicular **joint** of shoulder, distal tibial surface of ankle, radial head of elbow, distal radius of forearm, proximal phalanx surface of great toe, proximal metacarpal surface of thumb, or trapezium of wrist, especially for repairing tibial plateau of knee or acetabulum of hip.

ADVANTAGE - The system formed in-vivo at **joint** site enhances conformance and improves **long** term performance. The use of **biomaterial** in the system, improves course of preparation of storage, stability, improves ease of use, adaptability and predictability. Hence, exhibits excellent biocompatability, moisture cure characteristics, tissue congruity and conformability, retention, wear characteristics and physical-mechanical properties. The system enables gradual articulation of bones in course of **long** term use. The system having excellent fracture toughness, effectively prevents fibrillated articular cartilage. The system when **implanted** in ball and socket **joints**, provides soft, conformable and durable lining for placement of hip **prosthetic** portion. The **implant** which functions as **spacer** or impact absorber, improves coefficient of friction between surfaces, increases the weight bearing area and improves congruency of **joint** surfaces. The system enables access to the site in minimal invasive manner.

DESCRIPTION OF DRAWING(S) - The figure shows the top and side perspective of knee **implant** .

Implant (10)

First and second major surfaces (12,14)

pp; 53 DwgNo 1/11

Derwent Class: A96; B04; D22; E12; E13; P32; P34
International Patent Class (Main): A61F-002/30; A61F-002/36; A61F-002/38
International Patent Class (Additional): A61L-027/00; A61L-027/18

26/7/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

007941319
WPI Acc No: 1989-206431/198928

Bifunctional long - chain spacer for immobilising bio-molecules - has defined min. chain length between functional gps., one of which is latent and activated by given stimulus, e.g. light

Patent Assignee: BIO-METRIC SYSTEMS (BIOM-N); BIO METRIC SYSTEMS INC (BIOM-N); BSI CORP (BSIB-N); BIO-METRIC SYSTEMS INC (BIOM-N)
Inventor: DUNKIRK S G; GUIRE P E; JOSEPHSON M W; SWANSON M J; DUNKIRK S; GUIRE P; DUNKIRK G
Number of Countries: 016 Number of Patents: 014
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8905616	A	19890629	WO 88US4491	A	19881215	198928	B
NO 9002790	A	19900822				199045	

DK 9001525	A	19900824				199046
EP 407390	A	19910116	EP 89901420	A	19881215	199103
JP 3503005	W	19910711	JP 89501343	A	19881215	199134
US 5217492	A	19930608	US 82428074	A	19820929	199324
			US 86920567	A	19861017	
			US 87108765	A	19871015	
			US 87138226	A	19871224	
			US 90499193	A	19900323	
			US 91681478	A	19910403	
US 5258041	A	19931102	US 82428074	A	19820929	199345
			US 86920567	A	19861017	
			US 87108765	A	19871015	
			US 87138226	A	19871224	
			US 89447805	A	19891208	
			US 91671621	A	19910319	
EP 407390	A4	19911211	EP 89901420	A	19881215	199520
CA 1335721	C	19950530	CA 585352	A	19881208	199529
EP 407390	B1	19960424	WO 88US4491	A	19881215	199621
			EP 89901420	A	19881215	
DE 3855238	G	19960530	DE 3855238	A	19881215	199627
			WO 88US4491	A	19881215	
			EP 89901420	A	19881215	
NO 180657	B	19970210	WO 88US4491	A	19881215	199713
			NO 902790	A	19900622	
JP 2855223	B2	19990210	WO 88US4491	A	19881215	199911
			JP 89501343	A	19881215	
CA 1340345	C	19990126	CA 585351	A	19881208	199915

Priority Applications (No Type Date): US 87138226 A 19871224; US 82428074 A 19820929; US 86920567 A 19861017; US 87108765 A 19871015; US 90499193 A 19900323; US 91681478 A 19910403; US 89447805 A 19891208; US 91671621 A 19910319; US 88223149 A 19880722

Cited Patents: 1.Jnl.Ref; US 4160698; US 4722906; WO 8802623; EP 175973; EP 228225; EP 295073; EP 938; US 4007089; WO 9000887

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8905616	A	E	67		
	Designated States (National): DK JP NO				
	Designated States (Regional): AT BE CH DE FR GB IT LU NL SE				
EP 407390	A				
	Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE				
US 5217492	A		18	A61F-002/02	CIP of application US 82428074
					CIP of application US 86920567
					CIP of application US 87108765
					Div ex application US 87138226
					Cont of application US 90499193
					CIP of patent US 4722906
					CIP of patent US 4973493
US 5258041	A		18	A61F-002/54	CIP of application US 82428074
					CIP of application US 86920567
					CIP of application US 87108765
					Div ex application US 87138226
					Cont of application US 89447805
					CIP of patent US 4722906
					CIP of patent US 4973493
EP 407390	B1	E	27	A61F-002/54	Based on patent WO 8905616

Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE

DE 3855238	G		A61F-002/54	Based on patent EP 407390 Based on patent WO 8905616
NO 180657	B		G01N-033/543	Previous Publ. patent NO 9002790
JP 2855223	B2	24	A61L-027/00	Previous Publ. patent JP 3503005 Based on patent WO 8905616
CA 1335721	C		C12N-011/08	
CA 1340345	C		B05D-003/06	

Abstract (Basic): WO 8905616 A

Long chain spacer, for attaching a biomolecule to a support, has a backbone bearing 2 reactive gps. separated by a backbone extended **chain length** of not less than 25 Angstroms, one gp. being a latent gp. capable of forming a covalent bond to the support surface in response to a given stimulus, and the other gp. being capable of forming a covalent bond to a biomolecule. Both gps. may be latent and responsive to different stimuli.

Compsn. for rendering a support surface **biocompatible** comprises a biomolecule attached to the **spacer** at a distance of at least 25 Angstroms from the latent gp. capable of bonding to the support. **Biomaterial** is also claimed comprising biomolecules attached to a support via the **spacer**.

USE/ADVANTAGE - Useful for immobilising eg various cell growth factors, antimicrobial agents (lysozyme, penicillins), antithrombogenic agents (heparin, streptokinase, TPA), thrombogenic agents (collagen), and other proteins, carbohydrates, fatty acids, etc. The biomolecule is sufficiently **spaced** from the surface to reduce interactions and give a more natural conformation and/or activity. Materials which may be rendered **biocompatible** include metal, **polymeric** or ceramic **prostheses** (vascular grafts, contact or intraocular lenses, artificial organs), blood contact materials (oxygenator tubing, blood bags), catheters, sutures, etc.

(Dwg.0/1

Abstract (Equivalent): EP 407390 B

A **long chain spacer** for tethering a bio-molecule to a support surface without pre-activation of the support surface, the **spacer** having a chemical backbone bearing two reactive groups separated by a backbone extended **chain length** of not less than about 25 Angstroms, with no latent reactive groups therebetween, one such reactive group (I) being a latent photoreactive group capable of forming a covalent bond to the support surface in response to actinic radiation, and the other reactive group (II) being capable of forming a covalent bond to a bio-molecule.

Dwg.0/12

Abstract (Equivalent): US 5258041 A

Bio molecule attachment comprises (a) attaching a **spacer** contg. hydrophilic chemical **chain** carrying a hydrophobic guiding gp. which may become embedded in the hydrophobic surface of the support; and (b) covalently bonding a bio molecule to the **spacer**.

Spacer has a stopping gp. that is hydrophilic to the guiding gp. and hydrophobic surface of the support, **along** the **length**. Stopping gp. lies between most of the hydrophilic **chain** and guiding gp. Guiding gp. comprises an omega amino undecanoic acid, an epsilon aminocaproic acid, a gamma aminobutyric acid, or beta-alanine.

ADVANTAGE - **Spacer length** may be adjusted to optimise specific activities of a bio molecule. Reaction conditions for coupling the

spacer avoid damaging the bio molecule.
Dwg. 1/1
US 5217492 A
Spacer for attaching biomolecule (I) to a support with a hydrophobic surface can covalently bond to (I). It comprises a hydrophilic chemical **chain** carrying a hydrophobic guiding gp. which can become embedded in the surface.
It also has a stopping gp. positioned between the bulk of the hydrophobic **chain** and the guiding gp.. The stopping gp. is hydrophilic to the guiding gp. and to the surface. The guiding gp. is derived from an aminoalkyl carboxylic acid, esp. omega-aminoundecanoic acid, epsilon-aminocaproic acid, gamma-aminobutyric acid or beta-alanine.
ADVANTAGE - Adverse changes in (I) due to the effect of the support are avoided.
Dwg.0/1
Derwent Class: A18; A25; A82; A96; B04; B07; D22; G02; P32; P34; P42
International Patent Class (Main): **A61F-002/02** ; **A61F-002/54** ; **A61L-027/00** ; B05D-003/06; C12N-011/08; G01N-033/543
International Patent Class (Additional): A61L-017/00; A61L-029/00; A61L-031/00; A61L-033/00; C07K-011/08; G01N-033/566

27/26,TI/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
017535965
WPI Acc No: 2006-047205/ **200605**
Biodegradable coating on a surface of a medical device useful for delivering a therapeutic agent, comprises polyamino acids derivatized to have a hydrophobic hydrocarbon side chain

27/26,TI/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
017527502
WPI Acc No: 2006-038742/ **200604**
Providing a coating to a medical device, comprises disposing a coating composition comprising a biomolecule on the device having a layer comprising acrylate polymer with a pendent first reactive group

27/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
017515275
WPI Acc No: 2006-026512/ **200603**
Composition, useful for coating the surface of a medical device with a bioactive agent, comprising a bioactive agent in combination with polymers that includes a first and second polymer components

27/26,TI/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
017453593
WPI Acc No: 2005-777268/ **200579**
Composition permitting release of active agent over time, useful for coating medical device, comprises agent in combination with first polymer

which is at least polybutene and second polymer (poly(alkyl or aromatic(meth)acrylate)

27/26,TI/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
015417659
WPI Acc No: 2003-479799/ **200345**
Demineralized bone putty composition used for increasing bone formation in humans and animals, comprises demineralized bone matrix and lipid fraction containing lecithin and/or triglycerides containing unsaturated fatty acids

27/26,TI/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
015161364
WPI Acc No: 2003-221892/ **200321**
Manufacturing biodegradable organic polymer/inorganic particle composite for bone fixation, by dispersing inorganic fine particle in biodegradable organic monomer, polymerizing and forming into desired shape

27/26,TI/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
014668945
WPI Acc No: 2002-489649/ **200252**
Biphasic injectable composition for tissue volume replacement and as material in plastic and reconstructive surgery, comprises solid polymer phase and carrier substrate phase

27/26,TI/16 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
014385451
WPI Acc No: 2002-206154/ **200226**
Preparing bioactive implant surfaces, useful as joint or bone prostheses, comprises applying layer of anchoring molecules then immobilizing mediators by hydrophobic interaction

27/26,TI/18 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
014276677
WPI Acc No: 2002-097379/ **200213**
Making substrates, i.e. drug delivery device, biocompatible , involves contacting oppositely charged substrate and starting material, and initiating alternating charge layer electrostatic self-assembly to form thin film

27/26,TI/19 (Item 19 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
014142131
WPI Acc No: 2001-626342/ **200172**
Artificial bone as osteoconductive and osteoinductive biodegradable

substitute for bone cements, allografts, and autografts, comprises calcium phosphate artificial bone cement and polyphosphate

27/26,TI/24 (Item 24 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
012976146
WPI Acc No: 2000-147995/ **200014**
Smooth, adherent, abrasion-resistant, repellent fluoropolymer coatings on implants, prostheses or medical instruments, obtained by pulsed laser deposition

27/26,TI/25 (Item 25 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
012459692
WPI Acc No: 1999-265800/199923
Biocompatible polymeric coatings

27/26,TI/26 (Item 26 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
011341552
WPI Acc No: 1997-319457/199729
Random block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) - useful in drug delivery implants, and implantable medical devices e.g. for preventing formation of adhesions between injured tissues

27/26,TI/27 (Item 27 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
009755146
WPI Acc No: 1994-034997/199404
Inter-penetrating polymer network biomaterial - contg. acidic polysaccharide, pref. hyaluronic acid, and synthetic polymer, used e.g. as sponge or gauze contg. active mol

DATE **27/7/8 (Item 8 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
015901400
WPI Acc No: 2004-059240/ **200406**
Thermoplastic block copolymer used as biomaterials in medical devices, e.g. catheter, comprises poly(vinyl pyrrolidone)
Patent Assignee: MEDTRONIC INC (MEDT); ALKATOUT J A (ALKA-I); BENZ M E (BENZ-I); LYU S (LYUS-I)
Inventor: ALKATOUT J A; BENZ M E; LYU S
Number of Countries: 029 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030162905	A1	20030828	US 2002360725	P	20020227	200406 B
			US 2002246806	A	20020917	
WO 200372158	A1	20030904	WO 2003US5858	A	20030207	200406
US 6756449	B2	20040629	US 2002360725	P	20020227	200443
			US 2002246806	A	20020917	

EP 1482997 A1 20041208 EP 2003709356 A 20030207 200480
WO 2003US5858 A 20030207
JP 2005518841 W 20050630 JP 2003570901 A 20030207 200543
WO 2003US5858 A 20030207
Priority Applications (No Type Date): US 2002360725 P 20020227; US 2002246806 A 20020917
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 20030162905 A1 18 C08F-293/00 Provisional application US 2002360725

WO 200372158 A1 E A61L-029/08
Designated States (National): CA JP
Designated States (Regional): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT SE SI SK TR
US 6756449 B2 C08L-075/00 Provisional application US 2002360725
EP 1482997 A1 E A61L-029/08 Based on patent WO 200372158
Designated States (Regional): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT SE SI SK TR
JP 2005518841 W 48 A61L-027/00 Based on patent WO 200372158

Abstract (Basic): US 20030162905 A1
NOVELTY - A thermoplastic block co**polymer** comprises a poly(vinyl **pyrrolidone**) **polymer**.
DETAILED DESCRIPTION - A thermoplastic AnB block co**polymer** comprises poly(vinyl **pyrrolidone**).
A=poly(vinyl **pyrrolidone**) units;
B= **long** - **chain** organic connecting unit having urethane, urea, imide, amide and/or ether;
n=at least2.
INDEPENDENT CLAIMS are also included for:
(a) a method of modifying a surface of a medical device comprising preparing a thermoplastic block co**polymer**; and applying the co**polymer** to the surface of the medical device; and
(b) a method of preparing a thermoplastic block co**polymer** comprising reacting a monofunctional poly(vinyl pyrollidone) with functionalized B-block precursor reactants to form the thermoplastic.
USE - Used as **biomaterials** in medical devices, e.g. catheter or lead delivery catheter (claimed)
ADVANTAGE - The invented block co**polymer** can easily manufacture the medical devices.
pp; 18 DwgNo 0/0
Derwent Class: A14; A28; A96; P34
International Patent Class (Main): **A61L-027/00** ; A61L-029/08; C08F-293/00; C08L-075/00
International Patent Class (Additional): A61K-031/79; A61L-029/00; A61L-029/14; A61L-031/00; A61L-033/00; C08G-081/02

DATE **27/7/9** **(Item 9 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

015659359
WPI Acc No: 2003-721546/ **200368**
Interpositional arthroplasty system for creation or modification of orthopedic joint within mammalian body, comprises partially or fully preformed polymeric component(s) to be inserted and positioned at joint

site to provide knee implant
Patent Assignee: ADVANCED BIO SURFACES INC (ADBI-N); ARSENYEV A (ARSE-I); BUSCEMI P J (BUSC-I); FELT J C (FELT-I); LYNCH L E (LYNC-I); MORTENSON K M (MORT-I); PORTER C H (PORT-I); RYDELL M A (RYDE-I)
Inventor: ARSENYEV A; BUSCEMI P J; FELT J C; LYNCH L E; MORTENSON K M; PORTER C H; RYDELL M A
Number of Countries: 103 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200361522	A2	20030731	WO 2003US2142	A	20030122	200368	B
US 6652587	B2	20031125	US 2000228444	P	20000828	200378	
			WO 2001US41908	A	20010828		
			US 200298601	A	20020315		
			US 2002121455	A	20020412		
			US 2002167963	A	20020612		
AU 2003205319	A1	20030902	AU 2003205319	A	20030122	200422	
EP 1474071	A2	20041110	EP 2003703997	A	20030122	200473	
			WO 2003US2142	A	20030122		
US 20040247641	A1	20041209	US 2002349367	P	20020122	200481	
			WO 2003US2142	A	20030122		
			US 2004500929	A	20040708		
JP 2005515810	W	20050602	JP 2003561468	A	20030122	200541	
			WO 2003US2142	A	20030122		

Priority Applications (No Type Date): US 2002167963 A 20020612; US 2002349367 P 20020122; US 200298601 A 20020315; US 2002121455 A 20020412; US 2000228444 P 20000828; WO 2001US41908 A 20010828; US 2004500929 A 20040708
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200361522	A2	E	60	A61F-000/00	
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW				
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT SD SE SI SK SL SZ TR TZ UG ZM ZW					
US 6652587	B2			A61F-002/38	Provisional application US 2000228444 Cont of application WO 2001US41908 CIP of application US 200298601 CIP of application US 2002121455
AU 2003205319	A1			A61F-000/00	Based on patent WO 200361522
EP 1474071	A2	E		A61F-002/00	Based on patent WO 200361522
Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
US 20040247641	A1			A61F-002/00	Provisional application US 2002349367
JP 2005515810	W		36	A61F-002/38	Based on patent WO 200361522

Abstract (Basic): WO 200361522 A2

NOVELTY - Interpositional arthroplasty system for creation or modification of an orthopedic **joint** within a mammalian body, comprises partially or fully preformed **polymeric** component(s) to be inserted and positioned at a **joint** site to provide a knee **implant** having at least one major surface in apposition to supporting bone, and at least a second major surface in apposition to opposing bone.

DETAILED DESCRIPTION - Interpositional arthroplasty system for

creation or modification of an orthopedic **joint** within a mammalian body, comprises partially or fully preformed **polymeric** component(s) to be inserted and positioned at a **joint** site to provide a knee **implant** having at least one major surface in apposition to supporting bone, and at least a second major surface in apposition to opposing bone. The first major surface is positioned upon and congruent with the tibial surface of the knee, and the second major surface is adapted to be positioned against the femoral condyle of the knee. The second major surface has a femoral glide path to facilitate its performance in situ, the glide path being in the form of a central depression. The **implant** further comprises tibial projection(s) to extend distally over the rim of the tibial plateau to improve fixation in situ.

USE - For creation or modification of orthopedic **joint** within mammalian body.

ADVANTAGE - The components can be partially cured and formed ex vivo and further formed in vivo at the **joint** site to enhance conformance and improve **long** term performance. The **biomaterials** provide sterility, storage stability, ease of use, adaptability, predictability, **biocompatibility** , moisture cure characteristics, tissue congruity and conformability, retention, wear characteristics, and physical-mechanical properties.

pp; 60 DwgNo 0/16

Derwent Class: A25; A96; D22; P32; P34

International Patent Class (Main): **A61F-000/00** ; **A61F-002/00** ; **A61F-002/38**

International Patent Class (Additional): **A61L-027/00**

09926756

PLUS Search Results for S/N 09926756, Searched December 07, 2005

The Patent Linguistics Utility System (PLUS) is a USPTO automated search system for U.S. Patents from 1971 to the present. PLUS is a query-by-example search system which produces a list of patents that are most closely related linguistically to the application searched. This search was prepared by the staff of the Scientific and Technical Information Center, SIRA.

6403337
4846834
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File  94:JICST-EPlus 1985-2006/Nov W2
         (c)2006 Japan Science and Tech Corp(JST)
File  95:TEME-Technology & Management 1989-2006/Jan W4
         (c) 2006 FIZ TECHNIK
File  99:Wilson Appl. Sci & Tech Abs 1983-2005/Dec
         (c) 2006 The HW Wilson Co.
File 144:Pascal 1973-2006/Jan W1
         (c) 2006 INIST/CNRS
File 315:ChemEng & Biotec Abs 1970-2005/Dec
         (c) 2005 DECHEMA
File 357:Derwent Biotech Res. _1982-2006/Jan W3
         (c) 2006 Thomson Derwent & ISI
File 358:Current BioTech Abs 1983-2005/Dec
          (c) 2005 DECHEMA
File 285:BioBusiness(R) 1985-1998/Aug W1
         (c) 1998 BIOSIS
Set     Items   Description
S1     461404   JOINT? ?
S2     161606   PROSTHES?S OR PROSTHETIC? ? OR IMPLANT? ?
S3     847126   POLYMER??
S4      48044   CHAIN? ?(5N)(LENGTH OR LONG OR LONGER OR SHORTER)
S5          0   BIDISPERGENT
S6      66623   CROSSLINK?
S7      12631   POLYETHYLENE()OXIDE? OR POLYVINYLPYRROLIDONE OR POLYVINYL(-
             )PYRROLIDONE
S8      88499   POLYACRYLATE? OR POLYSTYRENE OR POLYETHER? OR POLYVINYLALC-
            OHOL OR POLYVINYL()ALCOHOL
S9     130465   POLYETHYLENE OR POLYPROPYLENE
S10     27454   BIOCOMPATIB?
S11     20474   S1 AND S2
S12      5934   S3(S)S4
S13    210541   S7:S9
S14       935   S11 AND S10
S15         1   S14 AND (S3 OR S13) AND S4 [not relevant]
S16       329   S14 AND (S3 OR S13)
S17       328   S16 NOT S15
S18   2295172   TWO
S19   4814916   2
S20        47   S17 AND S18
S21        68   S17 AND S19
S22        97   S20:S21
S23        92   RD  (unique items)
S24         4   S23/2000
S25         6   S23/2001
S26        10   S23/2002
S27         9   S23/2003
S28         9   S23/2004
S29         6   S23/2005:2006
S30        48   S23 NOT S24:S29
S31        48   Sort S30/ALL/PY,A
S32    352147   CAVITY OR CAVITIES OR HOLE OR HOLES OR APERTURE? ?
S33       472   S1(1N)S32
S34         2   S11 AND S12 [duplicates]
S35         1   S16 AND S33
S36         4   S11 AND (S3 OR S13) AND S33
S37         3   S36 NOT (S22 OR S34 OR S35 OR S15)
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S38 3 RD (unique items) [not relevant]

31/6/6 (Item 6 from file: 94)
01572460 JICST ACCESSION NUMBER: 92A0366700 FILE SEGMENT: JICST-E
Development of Ligament-bone Junction in Anterior Cruciate Ligament Reconstruction with the Scaffold Type Polyester Artificial Ligament(Leeds-Keio) in the Dog., 1992

31/6/8 (Item 8 from file: 144)
11379894 PASCAL No.: 94-0206826
Microstructural pathway of fracture in poly(methyl methacrylate) bone cement
1993

31/6/9 (Item 9 from file: 95)
00868918 F95020066966
Compressive stress relaxation behavior of irradiated ultra-high molecular weight polyethylene at 37 deg C
(Druckspannungsrelaxationsverhalten von bestrahltem Polyaethlyen mit ultrahohem Molekulargewicht bei 37 Grad Celsius)
1994

31/6/10 (Item 10 from file: 95)
00854830 F94120086940
Long-term durability of the interface in FPR composites after exposure to simulated physiologic saline environments
(Dauerhaltbarkeit der Verklebung in GFK-Teilen nach simulierter Einwirkung physiologischer Salzloesungen)
1994

31/6/13 (Item 13 from file: 94)
02581989 JICST ACCESSION NUMBER: 95A0626296 FILE SEGMENT: JICST-E
Mechanical Compatibility of Bioactive Cement for Total Hip Replacement., 1995

31/6/19 (Item 19 from file: 95)
00971321 F96010270973
Biochemical surface modification of Co-Cr-Mo
(Biochemische Oberflaechenmodifikation von Co-Cr-Mo)
1996

31/6/25 (Item 25 from file: 95)
01113243 M97062052619
Evaluation of diamond-like carbon-coated orthopaedic implants
1997

31/6/26 (Item 26 from file: 95)
01098747 F97050115957
The wear of ultra-high molecular weight polyethylene sliding on metallic and ceramic counterfaces representative of current femoral surfaces in joint replacement
(Der Verschleiss von ultrahochmolekularem Polyaethylen beim Gleiten auf metallischen oder keramischen Oberflaechen, repraesentativ fuer femorale Komponenten von aktuellen Gelenkprothesen)
1997

31/6/27 (Item 27 from file: 95)

01098737 F97050119957
Clinical wear behaviour of ultra-high molecular weight polyethylene cups paired with metal and ceramic ball heads in comparison to metal-on-metal pairings of hip joint replacements
(Das klinische Verschleissverhalten von Hueftgelenkprothesen der Werkstoffpaarung Gelenkschale aus ultrahochmolekularem Polyaethylen mit Gelenkkopf aus Metall oder Keramik im Vergleich zu Metall-auf-Metall-Paarung)
1997

31/6/30 (Item 30 from file: 94)
04147194 JICST ACCESSION NUMBER: 99A0527381 FILE SEGMENT: JICST-E
Development of Endogenous Signal Responsive Implanted Drug Delivery System in Hard Tissues., 1998

31/6/34 (Item 34 from file: 95)
01257200 F98100096969
Diamond coated total hip replacements
(Diamantbeschichtete Hueftgelenkprothesen)
1998

31/6/38 (Item 38 from file: 285)
01012281
Flow cytometric analysis of macrophage response to ceramic and polyethylene particles: Effects of size, concentration, and composition.

31/6/41 (Item 41 from file: 144)
13712478 PASCAL No.: 98-0403570
Diamond coated total hip replacements : Biocompatibility and Host Response in Total Hip Replacement
1998

31/6/42 (Item 42 from file: 94)
04192434 JICST ACCESSION NUMBER: 99A0704729 FILE SEGMENT: JICST-E
Bioceramics: Current Status and Future Prospects. Development Drug Delivery System by Using Apatite Related Bone Cement., 1999

31/6/43 (Item 43 from file: 95)
01365814 19991200841
Surface roughness quantification of CoCrMo implant alloys
(Quantifizierung der Oberflaechenrauhigkeit von Implantaten aus CoCrMo Legierungen)
1999

31/6/48 (Item 48 from file: 144)
14261416 PASCAL No.: 99-0465107
Biphasic calcium phosphate/hydrosoluble polymer composites : A new concept for bone and dental substitution biomaterials
Selected manuscripts from the Ninth European Meeting on Injectable Bone and Joint Substitution Materials, EPFL, Lausanne, March 1- 2 , 1999
1999

31/7/2 (Item 2 from file: 94)
DIALOG(R)File 94:JICST-EPlus

01266675 JICST ACCESSION NUMBER: 91A0179724 FILE SEGMENT: JICST-E
New concept for development of biomaterials.
TATEISHI TETSUYA (1)
(1) Mechanical Engineering Lab.
Kikai Gijutsu Kenkyujo Shoho(Journal of Mechanical Engineering Laboratory)
, 1990, VOL.44,NO.5, PAGE.161-165, FIG.6
JOURNAL NUMBER: F0150ABK ISSN NO: 0388-4252
UNIVERSAL DECIMAL CLASSIFICATION: 615.461/.466 616/618-76/78
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Commentary
MEDIA TYPE: Printed Publication
ABSTRACT: With the arrival of an aging society, the development of **biomaterial** substituting biofunctions has increasingly become a new important research field. The outline of research field is introduced.1) History of artificial **joints** . **2**) Development of high-functional artificial **joints** . It is impossible for a single material such as metal, ceramic and **polymer** to satisfy many requirements of organisms.3) Intelligent material with an access to the marvelousness of organisms.4) Biomedical material with gradient function.5) Biomechanics of hurt, medical treatment and prevention.

31/7/3 (Item 3 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management
(c) 2006 FIZ TECHNIK. All rts. reserv.
00589875 F92062219983
Friction and wear properties of biomaterials for artificial joint
(Reibungs- und Verschleisseigenschaften von **Biomaterial**ien fuer kuenstliche Gelenke)
Tateishi, T; Terui, A; Yunoki, H
MITI Mito, J; Kyocera Kyoto, J
Bioceramics, Proceedings of the 2nd International Symposium on Ceramics in Medicine, Heidelberg, D, September 19891990
Document type: Conference paper Language: English
Record type: Abstract
ISBN: 3-925542-06-6
ABSTRACT:
A 3-channel reciprocating pin on flat wear machine was used to compare the wear properties of variety of **prosthetic joint** materials. **Two** types of tests were run: (1) Ultrahigh molecular weight (UHMW) **polyethylene** (M(ind **2**):5 million)) bearing against alumina, zirconia ceramics, Co-Cr and Ti-6Al-4V alloys counterface. (**2**) UHMW polymethyl-methacrylate (M(ind w):12 million)) bearing alumina and Ti alloy counterface.

31/7/18 (Item 18 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management
(c) 2006 FIZ TECHNIK. All rts. reserv.
01020654 F96070080973
Numerical and experimental stress analysis of a polymeric composite hip joint prosthesis
(Numerische und experimentelle Stress-Analyse einer Hueftgelenk-Prothese aus **Polymer**kompositen)
Akay, M; Aslan, N
Univ. of Ulster at Jordanstown, Newtownabbey, GB; Kirikkale Univ.,

Kirikkale, TR
Journal of Biomedical Materials Research, v31, n2, pp167-182, 1996
Document type: journal article Language: English
Record type: Abstract
ISSN: 0021-9304
ABSTRACT:
A comparative stress analysis of a **polymeric** composite hip **joint** replacement was performed. A prototype short carbonfiber reinforced PEEK (CF/PEEK) **prosthesis** was manufactured by injection molding. Finite element (FE) analysis was conducted on intact femurs fitted with the CF/PEEK and the titanium **prostheses** under various loading conditions. FE models were validated by experimental strain gauge measurements by using synthetic femurs. There was a good agreement between the two methods except in the hoop strain of the femur in the calcar region because of the assumption of the isotropic material properties. The stem stresses were lower for the CF/PEEK **prosthesis** than for the titanium **prosthesis** . The maximum stress was in the spigot of the CF/PEEK **prosthesis** , but in the middle third of the stem of the titanium **prosthesis** . Stress generated in the cement was almost equal for both **prostheses** although more load was transferred, via cement, to the femur with the CF/PEEK **prosthesis** because the load transfer took place over a larger area. An out-of-plane component of the **joint** load causes higher **prosthesis** and cement stresses.

31/7/22 (Item 22 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01228893 F98060250982
Comparison of friction characteristics of artifical cartilage materials sliding against prosthetic joint materials
(Vergleich der Reibungscharakteristika von Knorpelersatzmaterialien, die entlang der Materialien von Gelenkprothesen gleiten)
Sawae, Y; Murakami, T; Moriyama, S
Kyushu Univ., Fukuoka, J
Internat. Conf. on New Frontiers in Biomechanical Engineering, Proc., Tokyo, J, Jul 18-19, 19971997
Document type: Conference paper Language: English
Record type: Abstract
ABSTRACT:
Experimental study of friction characteristics of artificial cartilage materials was carried out. Several hydrogels, **polyvinylalcohol** (PVA) hydrogels and **two** kind of semi-interpenetrating network (SIPN) hydrogels and polyurethane were used as artificial cartilage materials. Their friction coefficient at the start of the sliding motion after prolonged loading was evaluated with pin-on-disk test apparatus, and frictional behavior under the walking condition was examined in knee **joint** simulator test. As a result, PVA hydrogel which has relatively high water contents showed a good frictional behavior, but its durability was not sufficient for **long** term use. Friction characteristics of SiPNs were quite different with their composition, and SIPN with pellethane showed a good frictional behavior in simulator test.

31/7/23 (Item 23 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01183114 F97120218940
Corrosion behaviour and mechanical properties of functionally gradient materials developed for possible hard-tissue applications
Becker, BS; Bolton, JD
Univ. of Bradford, GB
Journal of Materials Science - Materials in Medicine, v8, n12, pp793-797, 1997
Document type: journal article Language: English
Record type: Abstract
ISSN: 0957-4530
ABSTRACT:
Artificial hip **joints** have an average lifetime of 10 years due to aseptic loosening of the femoral stem attributed to **polymeric** wear debris; however, there is a steadily increasing demand from younger osteoarthritis patients aged between 15 and 40 years for a **longer** lasting **joint** of 25 years or more. Compliant layers incorporated into the acetabular cup generate elastohydrodynamic lubrication conditions between the bearing surfaces, reduce **joint** friction coefficients and wear debris production and could increase the average life of total hip replacements, and other human load-bearing **joint** replacements, i.e. total knee replacements. Poor adhesion between a fully dense substrate and the compliant layer has so far prevented any further exploitation. This work investigated the possibility of producing porous metallic, functionally gradient type acetabular cups using powder metallurgy techniques - where a porous surface was supported by a denser core - into which the compliant layers could be incorporated. The corrosion behaviour and mechanical properties of three biomedically approved alloys containing **two** levels of total porosity (greater than 30 % and smaller than 10 %) were established, resulting in Ti-6Al-4V being identified as the most promising **biocompatible** functionally graded material, not only for this application but for other hard-tissue **implants**.

31/7/28 (Item 28 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management
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01079072 F97030072982
A comparison of the inflammatory potential of particulates derived from two composite materials
(Ein Vergleich des Entzuendungspotentials von Partikeln, die von zwei Verbundmaterialien abstammen)
Moore, R; Beredjiklian, P; Rhoad, R; Theiss, S; Cuckler, J; Ducheyne, P; Baker, DG
Univ. of Pennsylvania School of Med., Philadelphia, USA
Journal of Biomedical Materials Research, v34, n2, pp137-147, 1997
Document type: journal article Language: English
Record type: Abstract
ISSN: 0021-9304
ABSTRACT:
In order to develop total **joint** protheses with moduli of elasticity close to bone while retaining excellent strength characteristics, composite materials are being developed. Composites consist of graphite fibers embedded in a **polymer** matrix. The authors studied the inflammatory potential of particulates derived from **two** composites with different matrix components, polysulfone (PFS) and **polyetherketoneketone** (PEKK), in the rat subcutaneous air pouch model. Neat components of the composites were studied separately in the air pouch. Particulates also were studied in

culture using the macrophage cell line RAW 264.7, adherent synovial cells (ASC), and human polymorphonuclear neutrophils (PMNs). Particles derived from the PEKK-containing composite material consistently were less inflammatory than the PFS composite-derived particles, as measured by PMN infiltration, neutral metalloprotease activity, tumor necrosis factor (TNF) activity, and prostaglandin E(ind 2) (PGE(ind 2)) accumulation. Results from the neat materials confirmed the findings in the composite-derived material. PEKK composite-derived material produced less TNF from macrophage cultures, but there were no significant differences noted in the PGE(ind 2) production from ASC or in superoxide anion generation from PMNs. Particles from both PSF and PEKK produced minimal inflammatory responses in the rat subcutaneous air pouch. PEKK elicited a response virtually the same as the saline control and significantly less than that produced by particles of PSF.

31/7/31 (Item 31 from file: 94)

DIALOG(R)File 94:JICST-EPlus

03496486 JICST ACCESSION NUMBER: 98A0254960 FILE SEGMENT: JICST-E
Development of Artificial Articular Cartilage.
OKA MASANORI (1)
(1) Res. Center Biomedical Engineering
Seitai Zairyo(Journal of Japanese Society for **Biomaterials**), 1998, VOL.16,NO.1, PAGE.36-44, FIG.10, REF.67
JOURNAL NUMBER: X0411AAH ISSN NO: 0910-304X CODEN: SEZAE
UNIVERSAL DECIMAL CLASSIFICATION: 615.461/.466
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Review article
MEDIA TYPE: Printed Publication
ABSTRACT: For the purpose of preserving the cancellous bones as much as possible and revivingg a new surface replacement, we have attempted to develop an artificial articular cartilage, PVA-H. With respect to some of the mechanical properties of this material for an artificial articular cartilage, such as lubricating and shock-absorbing function, we have obtained very encouraging results. The important problem that still remains is how to attach the material to the bone firmly. For that purpose, we infiltrated Poly-Vinyl-**Alcohol** solution into the pores of titanium fiber mesh and bind these **two** materials by gelling the PVA, thus obtaining composite material. These composite materials were **implant**ed into both femoral condyles of twelve dogs under the load-bearing condition. As results, sufficient bone ingrowth into the pores of titanium fiber mesh was observed 8 weeks after the **implant**ation and composite material was firmly attached to neighboring bones due to the bone ingrowth. Because another important prerequisite for **prosthesis** , the wear resistant properties, was improved remarkably by gamma irradiation, this composite material appeared to be a very promising **joint** material. The partial replacement of the femoral head in aseptic necrosis, an artificial intervertebral disc and surface arthroplasty of non-weight bearing **joints** have been considered for clinical applications and are now being investigated. (author abst.)

31/7/32 (Item 32 from file: 94)

DIALOG(R)File 94:JICST-EPlus

03485383 JICST ACCESSION NUMBER: 98A0280378 FILE SEGMENT: JICST-E
An experimental study on tissue reaction to particles of various biomaterials in total joint replacement.
SAWADA KOHEI (1)
(1) Kyoto Prefect. Univ. of Med.
Kyoto Furitsu Ika Daigaku Zasshi(Journal of Kyoto Prefectural University of Medicine), 1998, VOL.107,NO.2, PAGE.237-250, FIG.15, REF.34
JOURNAL NUMBER: Z0618AAE ISSN NO: 0023-6012
UNIVERSAL DECIMAL CLASSIFICATION: 615.461/.466
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: "Loosening" is the most frequently observed **long**-term complication following **joint** replacement. Its cause is thought to be foreign-body reaction of the tissues against wear particles of various **biomaterials**. However, relationship between the size and type of **biomaterials** and tissue reaction has not been fully clarified. In the present study, the following 8 materials were surgically inserted to the knee **joints** of Japanese white rabbits, and histological reaction was examined: (1) ultra-high molecular weight **polyethylene** (UHMWPE, mean diameter: 11.MU.m), (**2**) UHMWPE (99.MU.m) (3) cobalt chrome alloy (Co-26Cr-6Mo, 3.9.MU.m), (4) stainless steel (SUS316L, 3.9.MU.m), (5) alumina ceramics (Al2O3, 3.9.MU.m), (6) titanium alloy (Ti-6Al-4V, 3.5.MU.m), (7) Co-26Cr-6Mo (0.03.MU.m) and (8) Ti-6Al-4V (0.03,.MU.m). Each type of particles was placed in the 6-mm **long** groove on a 12-mm **long** polymethylmethacrylate(PMMA) plug (diameter: 3mm), and the particles were aseptically inserted into the medullary canal at the distal end of the femur. Four or 12 weeks after the insertion, tissue specimens were resected, decalcified, cut into transverse sections, and stained with hematoxylin and eosin, in order to monitor tissue conditions around the particles. As a result, numerous histiocytes were accumulated around the particles of 11-.MU.m UHMWPE, 3.9-.MU.m and 0.03-.MU.m Co-26Cr-6Mo, 3.9-.MU.m SUS316L, and 0.03-.MU.m Ti-6Al-4V. Around the 99-.MU.m UHMWPE particles, slight histiocytic infiltration and bone ingrowth were observed. 3.9-.MU.m Al2O3, 3.5-.MU.m Ti-6Al-4V, and even phagocytes, induced weak tissue reaction. These findings demonstrate that in vivo tissue reaction varies according to **biomaterials** and particle sizes. (author abst.)

31/7/35 (Item 35 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01248404 F98090292963
A multidirectional motion pin-on-disk wear test method for prosthetic joint materials
Saikko, V
Helsinki Univ. of Technol., SF
Journal of Biomedical Materials Research, v41, n1, pp58-64, 1998
Document type: journal article Language: English
Record type: Abstract
ISSN: 0021-9304
ABSTRACT:

A realistic pin-on-disk wear test method for **prosthetic joint** materials has been developed. The new method, called CTPOD (circularly translating pin-on-disk), yields wear rates and wear mechanisms similar to those observed in retrieved **polyethylene** actetabular cups. In the established methods, where a **polyethylene** specimen slides against a unidirectionally rotating, or reciprocating, metallic or ceramic conterface, the wear rate typically is **two** orders of magnitude too low. In the present study, also, the reciprocator gave negligible wear. In the CTPOD method, considerable wear occurs because the direction of sliding rotates relative to the **polyethylene** pin, hence, the molecular orientation effect of **polyethylene** is avoided.

31/7/40 (Item 40 from file: 144)
DIALOG(R)File 144:Pascal

14725016 PASCAL No.: 00-0401193
Biocompatibility of prosthetic joint materials (Part 1): Evaluation of passivation film damage on metal surface associated with sliding motion
MORITA M; INOUE Y; SASADA T
Department of Biomedical Engineering, Kitasato University, School of Medicine, 15-1, Kitasato 1-chome, Sagamihara-shi, Kanagawa 228-0829, Japan; Department of Preventive Medicine and Public Health Science, Kitasato University, School of Medicine, 15-1, Kitasato 1-chome, Sagamihara-shi, Kanagawa 228-0829, Japan; Faculty of Precision Engineering, Chiba Institute of Technology, 17-1, Tsudanuma 2-chome, Narashino-shi, Chiba 275-0016, Japan
Journal: Japanese journal of tribology, 1998, 43 (5) 653-663
ISSN: 1045-7828 Availability: INIST-26660; 354000090994420110
No. of Refs.: 12 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English
To provide good **biocompatability** in metal **implants** , it is necessary to maintain a good passivation film on them. To determine friction environment allowing a passivation film to be maintained on artificial **joint** material in a living body, friction tests of 316L stainless steel, Co-28Cr-6Mo alloy and Ti-6Al-4V alloy have been performed in quasi-bodily fluid and under normal pressure in friction. Resulting damage of passivation films has been measured by an electrochemical technique. (1) In sliding of a metal pair in PBS(-) solution it is found that even at low contact surface pressures the passivation film almost completely breaks immediately after the start of sliding; therefore, in the case of metal-metal type artificial **joints** , the maintenance of a passivation film is difficult to realize. (**2**) In sliding **UHMWPE** against metal, significant damage to the passivation film occurs immediately after the start of sliding, but with the passage of the time of sliding the passivation film recovers and assumes a polarization voltage intrinsic to the respective metal. The level of passivation film damage when 316L steel and Co-Cr alloy are used amounts to 60% if the contact surface pressure exceeds 20 MPa. On the other hand, the level of damage to the passivation film in the case of Ti alloy reaches 70% at the contact surface pressure of 10 MPa and increases with an increase in contact surface pressure. (3) At the compression of a metal pin test specimen against UHMWPE creep deformation of the latter takes place and the level of damage of the passivation film increases.

31/7/44 (Item 44 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01363111 19991104901
Effect of protein lubrication on the wear properties of materials for prosthetic joints
(Auswirkungen einer Schmierung mit Proteinen auf die Abriebeigenschaften von Materialien fuer Gelenkprothesen)
Yen-Shuo Liao; Benya, PD; McKellop, HA
Los Angeles Orthopaedic Hospital, USA; Univ of Southern California, Los Angeles, USA
Journal of Biomedical Materials Research, v48, n4, pp465-473, 1999
Document type: journal article Language: English
Record type: Abstract
ISSN: 0021-9304
ABSTRACT:
The effects of pre-dilution and other modifications of bovine serum lubricants on the wear properties of UHMW **polyethylene** acetabular cups were evaluated in a hip **joint** simulator. The wear rate increased, and a nonphysiological type of surface-pitting occurred, when the serum was pre-diluted to 40 % or lower concentration. During the wear tests, the equilibrium temperature and the precipitation of proteins were substantially greater with zirconia balls than with cobalt-chromium. Protein precipitation, a potential modulator of in vitro wear, was shown to be temperature-, concentration- and time-dependant in water-bath tests, which indicated that ball-cup interface temperatures in the simulator must be above 60 deg C, i.e, well above the bulk lubricant temperature, to account for wear test protein precipitation. Several modifications of serum that were, in part, intended to decrease the tendency for protein precipitation were found to markedly affect the wear properties of the **two** combinations of materials. In particular, modified serum, which lacked some of the higher molecular weight proteins, produced a much higher wear rate than a control serum with the same initial protein concentration. The results indicated directions for further research to clarify the lubrication properties of serum, and for developing a universal standard test lubricant.

31/7/45 (Item 45 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01363110 19991104902
Prevention of fatigue cracks in ultrahigh molecular weight polyethylene joint components by the addition of vitamin E
(Vermeidung von Rissbildung auf Grund von Materialermuedung bei Gelenkteilen aus UHMW-Polyaethylen durch Zugabe von Vitamin E)
Tomita, N; Kitakura, T; Onmori, N; Ikada, Y; Aoyama, E
Kyoto Univ., J
Journal of Biomedical Materials Research, v48, n4, pp474-478, 1999
Document type: journal article Language: English
Record type: Abstract
ISSN: 0021-9304
ABSTRACT:
Flaking-type wear, so-called delamination, is often observed in **polyethylene joint** components. This is thought to occur partly due to

crack formation and propagation at grain boundaries. The study examined the effect of vitamin E on the crack formation and/or propagation in ultrahigh molecular weight **polyethylene** (UHMWPE) by using **2** -dimensional sliding fatigue testing and micro indenter testing. An in vitro sliding fatigue test was performed under **two** simplified articulating movements, and the cracks produced were observed by scanning acoustic tomography (SAT). Gamma-irradiated UHMWPE specimens demonstrated a smaller area of accumulated cracks as compared to virgin specimens, when the loading movement was reciprocated on a single linear locus. However, four out of five gamma-irradiated UHMWPE specimens exhibited severe flaking-like destruction under the complicated sliding condition, suggesting that gamma-irradiation accelerated crack propagation under multidirectional loading. All the gamma-irradiated vitamin-E-containing specimens demonstrated no subsurface crack formation and no flaking-like destruction. Results using micro indenter testing showed that the dynamic hardness at grain boundary was higher than that in grain, and was increased by gamma irradiation. This hardening at grain boundary was reduced by adding vitamin E. It is possible that the presence of vitamin E prevents crack propagation partly due to reduced hardness at grain boundaries. The gamma-irradiated vitamin-E-containing UHMWPE is a promising material to prevent flaking-like destruction of **polyethylene** **joint** components.

35/7/1 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal
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11519086 PASCAL No.: 94-0360066
Studies on a novel anterior cruciate ligament polyethylene fiber prosthesis : the histomotphological pattern of organization and bony anchorage of a polyethylene fiber prosthesis in the stifle of the goat
Synthetic ligament replacement and augmentation
BOSS J H; SHAJRAWI I; SOUDRY M; ANULLAH J; SOLOMON H; MENDES D G
Bnai Zion medical cent., dep. pathology, Haifa 31048, Israel
Journal: Clinical materials, 1994, 15 (1) 61-67
ISSN: 0267-6605 Availability: INIST-21655; 354000049047860080
No. of Refs.: 30 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United Kingdom
Language: English
The anterior cruciate ligament of goats was substituted by a high-tensile **polyethylene** fiber **prosthesis** . The animals were sacrificed after 6-12 months. Histologically, the **implants** were separated from a newly formed bony shell by a thick fibrous interface membrane, which was anchored to the bone by Sharpey-like fibers. Within the **joint** **cavity** , the **implants** were enclosed in thick fibrous sheaths, which were continuous with the intra-osseous interface membranes. While the inner granulomatous layer of the interface membrane extended inbetween the **polyethylene** fibrils for a short distance, the bulk of the **prosthesis** was poorly organized. A thick central fibrous band accompanied the intra-osseous and intra-articular portions of the **implants** throughout their entire **lengths**

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File  34:SciSearch(R) Cited Ref Sci 1990-2006/Jan W2
         (c) 2006 Inst for Sci Info
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File 323:RAPRA Rubber & Plastics 1972-2006/Nov
          (c) 2006 RAPRA Technology Ltd
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         (c) 2006 NTIS, Intl Cpyrght All Rights Res
File   8:Ei Compendex(R) 1970-2006/Jan W3
         (c) 2006 Elsevier Eng.  Info. Inc.
Set     Items   Description
S1       5435   JOINT? ?(2N)(CAVITY OR CAVITIES OR HOLE OR HOLES OR APERTU-
             RE? ? OR SPACE? ? OR OPENING? ? OR HOLLOW? ?)
S2     134175   PROSTHES?S OR PROSTHETIC? ? OR IMPLANT? ?
S3      92902   CHAIN? ?(5N)(LENGTH OR LONG OR LONGER OR SHORTER)
S4    1174480   POLYMER??
S5      16712   POLYETHYLENE()OXIDE? OR POLYVINYLPYRROLIDONE OR POLYVINYL(-
             )PYRROLIDONE
S6     171619   POLYACRYLATE? OR POLYSTYRENE OR POLYETHER? OR POLYVINYLALC-
             OHOL OR POLYVINYL()ALCOHOL
S7     249883   POLYETHYLENE OR POLYPROPYLENE
S8      48574   BIOCOMPATIB? OR BIOMATERIAL?
S9          5   S1 AND S2 AND S4:S7 AND S8
S10         5   RD  (unique items)
S11        53   S1 AND S2 AND S4:S7
S12         0   S3 AND S11
S13        70   S2 AND S4:S7 AND S3
S14    389127   JOINT? ? OR KNEE? ? OR HIP OR HIPS
S15         5   S13 AND S14
S16         5   S15 NOT S9
S17         5   RD  (unique items)
S18        65   S13 NOT (S9 OR S15)
S19        52   RD  (unique items)
S20         2   S19/2000
S21         4   S19/2001
S22         3   S19/2002
S23         2   S19/2003
S24         3   S19/2004
S25         5   S19/2005:2006
S26        33   S19 NOT S20:S25
S27        33   Sort S26/ALL/PY,A

10/7/5      (Item 3 from file: 323)
DIALOG(R)File 323:RAPRA Rubber & Plastics
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00046622
TITLE: WEAR RESISTANT MATERIAL FOR TOTAL JOINT REPLACEMENT - TISSUE
    BIOCOMPATIBILITY  OF AN ULTRA-HIGH MOLECULAR WEIGHT (UHMW)
    POLYETHYLENE -GRAPHITE COMPOSITE
AUTHOR(S): TETIK R D;  GALANTE J O;  ROSTOKER W
SOURCE: Journal of Biomedical Materials Research; 8, No.5, Sept.1974,
    p.231-50
ISSN: 0021-9304
CODEN: JBMRBG  JOURNAL ANNOUNCEMENT: 197503  RAPRA UPDATE: 198201
DOCUMENT TYPE: Journal Article
LANGUAGE: English
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ABSTRACT: TISSUE REACTION IN EXPERIMENTAL ANIMALS (MONKEYS AND RABBITS) WAS INVESTIGATED FOR **ULTRA-HIGH MOLEC. WT. PE**, GRAPHITE POWDER AND ULTRA-HIGH MOLEC. WT. PE-GRAPHITE COMPOSITE. THE MATERIALS WERE EVALUATED IN BOTH SOLID AND PARTICULATE FORMS AFTER **IMPLANT**ATION IN BONE, **JOINT CAVITIES** AND PARAVERTEBRAL MUSCLES FOR PERIODS UP TO ONE YEAR. ALL MATERIALS SHOWED GOOD TISSUE ACCEPTANCE IN SOLID FORM ALTHOUGH THE UHMWPE AND THE COMPOSITE WERE MORE REACTIVE THAN HIGH PURITY GRAPHITE OR STEEL. THE COMPOSITE IS SUGGESTED FOR USE IN HIP ARTHROPLASTIES BECAUSE OF ITS SUPERIOR WEAR RESISTANCE COMPARED WITH UHMWPE. 33 REFS.

17/6/5 (Item 2 from file: 8)
00467821
Title: DEGREE OF POLYMERIZATION OF ACRYLIC BONE.
Publication Year: 1975

17/7/4 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03430191 E.I. Monthly No: EIM9205-024777
Title: Tribological behaviour of various materials and surfaces against polyethylene .
Author: Streicher, R. M.; Schoen, R.
Corporate Source: SULZERmedica, Winterthur, Switz
Conference Title: 17th Annual Meeting of the Society for **Biomaterials** in conjunction with the 23rd International **Biomaterials** Symposium
Conference Location: Scottsdale, AZ, USA Conference Date: 19910501
E.I. Conference No.: 15731
Source: Transactions of the Annual Meeting of the Society for **Biomaterials** in conjunction with the International **Biomaterials** Symposium v 14. Publ by Soc for **Biomaterials**, Algonquin, IL, USA. p 289
Publication Year: 1991
CODEN: TAMSEN
Language: English
Document Type: PA; (Conference Paper) Treatment: X; (Experimental); A; (Applications)
Journal Announcement: 9205
Abstract: It is shown that ultra-high-molecular weight **polyethylene** is such a good friction partner for various metallic and ceramic materials mainly because of its high molecular weight with the entanglement of the **long chains** , which act as physical **cross-linking** sites. In addition the paraffin-like molecular surface with its zig-zag structure results in the good sliding properties. The low elasticity modulus of UHMWPE, together with the only weak Van der Waal's binding forces of this **polymer** , makes it possible to adapt the surface by creep. For the Co-28Cr-6Mo-0.2C cast alloy a linear relationship was found between the roughness of the discs and the **polyethylene** wear rate. For the forged alloy Protasul-21WF, with smaller interdendritic M//7C//3 carbides, the roughness is reduced and this effect used to advantage.

27/6/22 (Item 22 from file: 323)
00660619
TITLE: EFFECT OF CROSSLINKING AGENTS ON POLY(METHYL METHACRYLATE) BONE CEMENTS

27/7/9 (Item 9 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03068706 E.I. Monthly No: EI9106071307
Title: Organic polymer surfaces for use in medicine. Their formation, modification, characterisation and application.
Author: Braybrook, Julian H.; Hall, Laurance D.
Corporate Source: Univ of Cambridge Sch of Clinical Medicine, Cambridge, Engl
Source: Progress in **Polymer** Science (Oxford) v 15 n 5 1990 p 715-734
Publication Year: 1990
CODEN: PRPSB8 ISSN: 0079-6700
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); G; (General Review); L; (Literature Review/Bibliography)
Journal Announcement: 9106
Abstract: Demand is growing for **biomaterial** usage in dialysis and immobilisation of enzymes and as artificial cells, organs and **prostheses**, tissue adhesives and cements, plasma extenders, and controlled drug release agents. **Polymers** are frequently difficult to characterise accurately and often have variable **chain length** and molecular weight distribution. Furthermore, there may be problems associated with manufacturing methods, fabrication, sterilisation and component-**polymer**isation. Nevertheless, the final products are generally relatively light-weight, easily processed and shaped, have good versatility and give a better balance between weight and mechanical, chemical and physical properties than simpler materials. In addition, they may be fabricated with a specific biological function and compatibility. This review will examine the formation, modifications, applications and limitations of some organic **polymer** surfaces in man. 194 Refs.

27/7/13 (Item 13 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03709173 E.I. No: EIP93071017819
Title: Physical aging behavior of a series of biodegradable polymers as a function of the pendent- chain length
Author: Bron, Samuel; Fiordeliso, James; Kohn, Joachim
Corporate Source: Rutgers State Univ of New Jersey, Piscataway, NJ, USA
Conference Title: Proceedings of the 1993 IEEE 19th Annual Northeast Bioengineering Conference
Conference Location: Newark, NJ, USA Conference Date: 19930318-19930319
Sponsor: New Jersey Inst of Technology; Rutgers Univ; IEEE; The Whitaker Foundation
E.I. Conference No.: 18639
Source: Bioengineering, Proceedings of the Northeast Conference 1993. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA. p 145-147
Publication Year: 1993
CODEN: BENYDB ISBN: 0-7803-0925-1
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications); X ; (Experimental)
Journal Announcement: 9311W2
Abstract: The physical aging behavior of a series of tyrosine-containing

polyarylates was investigated as a function of the **length** of the alkyl pendent **chain** . The experiments were performed in a differential scanning calorimeter (DSC) at corresponding aging temperatures. It was found that the physical aging efficiency was strongly affected by small changes in the **length** of the pendent **chain** (2, 6, or 8 methylene units). For similar cooling rates from above T//g to below T//g and identical aging times, the enthalpy relaxation decreased with the **length** of the pendent **chain** . A free volume based explanation is suggested. (Author abstract) 16 Refs.

27/7/15 (Item 15 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

04320319 Genuine Article#: RV760 Number of References: 10
Title: POLY(ETHYLENE GLYCOL)-SERUM ALBUMIN HYDROGEL AS MATRIX FOR ENZYME IMMOBILIZATION - BIOMEDICAL APPLICATIONS
Author(s): DURSO EM; JEANFRANCOIS J; DOILLON CJ; FORTIER G
Corporate Source: UNIV QUEBEC,DEPT CHIM BIOCHIM,RECH BIOTHERAPEUTMOLEC GRP,ENZYMOL APPL LAB,CP 8888/MONTREAL/PQ H3C 3P8/CANADA/; HOP ST FRANCOIS ASSISE,INST BIOMAT E0678/QUEBECCITY/PQ G1L 3L5/CANADA/
Journal: ARTIFICIAL CELLS BLOOD SUBSTITUTES AND IMMOBILIZATION BIOTECHNOLOGY, 1995, V23, N5, P587-595
ISSN: 1073-1199
Language: ENGLISH Document Type: ARTICLE
Abstract: Poly(ethylene glycol)-albumin hydrogels were **implant**ed in mice in subcutaneous position to study their **biocompatibility**. After one month of **implant**ation, the fibrous capsule formed around the **implant** was thin and the inflammatory tissue was limited. Acid phosphatase (AP) was selected to evaluate the hydrogel as matrix for enzyme immobilization. AP-hydrogels were prepared using activated PEG (PEGa) of different molecular weigths (M.W. 4 600 to 20 000) to evaluate the effect of the matrix composition on the activity of AP. The apparent Km of the immobilized AP was 16 to 20 times higher than the Km of the soluble enzyme. The apparent Km value decreases with the increase of the **chain length** of the PEGa used. This can be correlated to an increase in the hydrogel porosity. The operational stability of the AP was markedly improved after immobilization by 110 to 160 times according to the PEGa molecular weigth involved. Also, asparaginase (ASNase) was immobilized in PEGa(M.W. 10 000)-albumin-hydrogel as a model for in vivo bioreactor. ASNase hydrogels were **implant**ed in the peritoneal **cavity** of rats; 7 days later, 75% of the initial enzyme activity were retrieved.

27/7/16 (Item 16 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

05309545 Genuine Article#: VP508 Number of References: 6
Title: HIGH-AFFINITY POLYETHYLENE OXIDE FOR IMPROVED BIOCOMPATIBILITY
Author(s): NELSON KD; EISENBAUMER R; POMERANTZ M; EBERHART RC
Corporate Source: UNIV TEXAS,DEPT BIOMED ENGN,BOX 19138/ARLINGTON//TX/76019 ; UNIV TEXAS,DEPT CHEM/ARLINGTON//TX/76019; UNIV TEXAS,SW MED CTR,DEPT SURG/DALLAS//TX/75235
Journal: ASAIO JOURNAL, 1996, V42, N5 (SEP-OCT), PM884-M889
ISSN: 1058-2916
Language: ENGLISH Document Type: ARTICLE
Abstract: Albumin passivation methods are based on the premise that a

confluent layer of conformationally intact albumin will provide a **biocompatib**le surface. However, albumin in contact with foreign surfaces tends to denature, and other proteins will adsorb to the surface, making the albumin passivation theory difficult to test. To overcome these two limitations, it was necessary to have a nondenaturing ligand specific for albumin attached to the surface by a **long chain polyethylene oxide** (PEG), which is known to have low protein binding. Clinical reports suggest no denaturation of albumin upon binding with warfarin, a drug known to have igh albumin affinity. Thus, we tethered warfarin to glass ead surfaces previously coated with poly(methyl-co-aminopropyl)siloxane (PMAS) by means of a 4.6 kilodalton PEO **chain**. This would provide a surface that may come close to satisfying the conditions of the albumin passivation theory. Platelet adhesion and activation on warfarin treated surfaces was reduced compared to several controls, including: PEO PMAS, and a ligand containing mercury, which also is tethered to PMAS by PEO. We conclude that the warfarin ligand, when tethered to surfaces by PEO, demonstrates improved **biocompatib**ility. This treatment is promising for **implant** applications.

27/7/19 (Item 19 from file: 323)
DIALOG(R)File 323:RAPRA Rubber & Plastics

00616601
TITLE: NEW BIOMATERIALS FOR TISSUE ENGINEERING
AUTHOR(S): James K; Kohn J
SOURCE: MRS Bulletin; 21, No.11, Nov.1996, p.22-6
ISSN: 0883-7694
JOURNAL ANNOUNCEMENT: 199703 RAPRA UPDATE: 199704
DOCUMENT TYPE: Journal Article
LANGUAGE: English
SUBFILE: (R) RAPRA
ABSTRACT: Pseudo-poly(amino acid)s, specifically tyrosine-derived polycarbonates and polyarylates, are new biodegradable materials. As a robust alternative to the commonly used polyesters, these materials appear to offer improved bone compatibility, the ability to regenerate a series of materials allowing for variations in key mechanical and cellular response properties, and facilities to covalently **link** bioactive molecules as pendant **chains**. Leaching methods, used to fabricate poly(lactic acid) scaffolds, were successfully adapted to tyrosine-derived polycarbonates. Tissue engineering research utilising these materials has only recently commenced and is focused in the area of bone regeneration. 41 refs.

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File   9:Business & Industry(R) Jul/1994-2006/Jan 20
         (c) 2006  The Gale Group
File  16:Gale Group PROMT(R) 1990-2006/Jan 23
         (c) 2006 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 149:TGG Health&Wellness DB(SM) 1976-2006/Jan W3
         (c) 2006 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2006/Jan 23
         (c)2006 The Gale Group
File 129:PHIND(Archival) 1980-2006/Jan W3
         (c) 2006 T&F Informa UK Ltd
File 135:NewsRx Weekly Reports 1995-2006/Jan W3
         (c) 2006 NewsRx
File 441:ESPICOM Pharm&Med DEVICE NEWS 2006/Oct W3
         (c) 2006 ESPICOM Bus.Intell.
File 621:Gale Group New Prod.Annou.(R) 1985-2006/Jan 23
         (c) 2006 The Gale Group
File 636:Gale Group Newsletter DB(TM) 1987-2006/Jan 23
         (c) 2006 The Gale Group
Set     Items   Description
S1       5402   JOINT? ?(2N)(CAVITY OR CAVITIES OR HOLE OR HOLES OR APERTU-
             RE? ? OR SPACE? ? OR OPENING? ? OR HOLLOW? ?)
S2     101610   PROSTHES?S OR PROSTHETIC? ? OR IMPLANT? ?
S3      24088   CHAIN? ?(5N)(LENGTH OR LONG OR LONGER OR SHORTER)
S4     277539   POLYMER??
S5       1260   POLYETHYLENE()OXIDE? OR POLYVINYLPYRROLIDONE OR POLYVINYL(-
             )PYRROLIDONE
S6      56991   POLYACRYLATE? OR POLYSTYRENE OR POLYETHER? OR POLYVINYLALC-
             OHOL OR POLYVINYL()ALCOHOL
S7     173508   POLYETHYLENE OR POLYPROPYLENE
S8      25315   BIOCOMPATIB? OR BIOMATERIAL?
S9     205907   HIP OR HIPS OR KNEE OR KNEES
S10        22   S1(S)S2
S11         5   S10 AND S4:S7
S12         0   S8 AND S11
S13         5   RD S11  (unique items)
S14         0   S10 (S)S3
S15        17   S10 NOT S11
S16        17   Sort S15/ALL/PD,A [not relevant]

 13/7/5      (Item 2 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2006 The Gale Group. All rts. reserv.
02360171    Supplier Number: 44637649  (THIS IS THE FULLTEXT)
Studies on a novel anterior cruciate ligament  polyethylene  fibre
  prosthesis: the histo- morphological pattern of organization and bony
  anchorage of a  polyethylene  fibre prosthesis in the stifle of a goat
Biomedical Materials, pN/A
May, 1994
TEXT:
A thick central fibrous band accompanied the intra-osseous and intra
-articular portions of the  implants  throughout their entire lengths.
Oblique fibrous tracks linked the interface membranes with the central
fibrous bands. The intra-osseous tunnels were considerably expanded when
compared to the initially drilled tunnels. The  implants  were separated
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from a newly formed bony shell by a thick fibrous interface membrane which was anchored to the bone by Sharpey like fibres. Within the **joint cavity**, the **implants** were enclosed in thick fibrous sheaths, which were continuous with the intra -osseous interface membranes. While the inner granulomatous layer of the interface membrane extended in between the **polyethylene** fibrils for a short distance, the bulk of the **prosthesis** was poorly organised. Boss J H. et al., Clinical Materials, 15, 1, 1994, p.61-76; Department of Pathology, Bnai Zion Medical Center, PO Box 4940, Haifa 31048, Israel.

[redacted]

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File 350:Derwent WPIX 1963-2006/UD,UM &UP=200605
         (c) 2006  Thomson Derwent
File 347:JAPIO Nov 1976-2005/Aug(Updated 051205)
         (c) 2005 JPO & JAPIO
Set     Items   Description
S1       7792   JOINT? ?(2N)(CAVITY OR CAVITIES OR HOLE OR HOLES OR APERTU-
            RE? ? OR SPACE? ? OR OPENING? ? OR HOLLOW? ?)
S2      68134   PROSTHES?S OR PROSTHETIC? ? OR IMPLANT? ?
S3      24434   CHAIN? ?(5N)(LENGTH OR LONG OR LONGER OR SHORTER)
S4    1625625   POLYMER??
S5      22593   POLYETHYLENE()OXIDE? OR POLYVINYLPYRROLIDONE OR POLYVINYL(-
            )PYRROLIDONE
S6     215207   POLYACRYLATE? OR POLYSTYRENE OR POLYETHER? OR POLYVINYLALC-
            OHOL OR POLYVINYL()ALCOHOL
S7     342967   POLYETHYLENE OR POLYPROPYLENE
S8      11989   BIOCOMPATIB? OR BIOMATERIAL?
S9        167   S1 AND S2
S10        45   S4:S7 AND S9
S11        11   S8 AND S10
S12        11   S11/2000:2006
S13         2   S10 AND S3 [duplicates]
S14         0   S13 NOT S11
S15    126999   IC=A61F? OR IC=A61L-027?
S16     10924   S1:S2 AND S4:S7
S17      5809   S16 AND S15
S18        89   S3 AND S8
S19        33   S15 AND S18
S20        31   S19 NOT (S11 OR S13)
S21         7   S20/2000
S22        15   S20/2001:2002
S23        15   S20/2003
S24        12   S20/2004
S25        15   S20/2005:2006
S26         3   S20 NOT S21:S25
S27        28   S21:S25 NOT S26

 11/7/1     (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006  Thomson Derwent. All rts. reserv.
017351447    **Image available**
WPI Acc No: 2005-675089/200569
   Prosthetic  system for implantation into knee joint compartment between
  femoral condyle and its corresponding tibial plateau, comprises meniscal
  component movable with respect to tibial component
Patent Assignee: FELL B M (FELL-I)
Inventor: FELL B M
Number of Countries: 001  Number of Patents: 001
Patent Family:
Patent No     Kind   Date     Applicat No    Kind   Date      Week
US 20050209703  A1  20050922  WO 99US7309     A   19990402  200569  B
                              US 99297943     A   19990510
                              US 2000664939   A   20000919
                              US 2001934364   A   20010821
                              US 2002232608   A   20020830
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US 2005117838 A 20050429

Priority Applications (No Type Date): US 2005117838 A 20050429; WO 99US7309 A 19990402; US 99297943 A 19990510; US 2000664939 A 20000919; US 2001934364 A 20010821; US 2002232608 A 20020830

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20050209703	A1		16	A61F-002/38	Cont of application WO 99US7309 Cont of application US 99297943 CIP of application US 2000664939 Cont of application US 2001934364 CIP of application US 2002232608 Cont of patent US 6206927 CIP of patent US 6558421

Abstract (Basic): US 20050209703 A1

NOVELTY - **Prosthetic** system (100) comprising a tibial component (120') arranged to be fixed to a tibial plateau, and a meniscal component (150) having bottom face arranged to engage a top face of the tibial component to form the assembled **prosthetic** system, is new. The meniscal component is movable with respect to the tibial component.

DETAILED DESCRIPTION - **Prosthetic** system comprising a tibial component arranged to be fixed to a tibial plateau and having a top face including a flat surface and an opposed bottom face; and a meniscal component having an elliptical shape in plan, is new. The meniscal component has a top face and an opposed bottom face including a flat surface. The meniscal component bottom face is arranged to engage the tibial component top face to form the assembled **prosthetic** system. The meniscal component is movable with respect to the tibial component.

An INDEPENDENT CLAIM is also included for **implant**ation of the **prosthetic** system into a knee **joint** compartment between a femoral condyle and its corresponding tibial plateau comprising:

(a) surgically exposing the knee **joint** compartment;

(b) inserting the tibial component into the knee **joint** compartment;

(c) fixing the tibial component to the tibial plateau; and

(d) inserting the meniscal component into the knee **joint** compartment proximal to the tibial component so that the meniscal component bottom face engages the tibial component top face to form the assembled **prosthetic** system.

USE - For **implant**ation into a knee **joint** compartment between a femoral condyle and its corresponding tibial plateau (claimed).

ADVANTAGE - The inventive **prosthetic** system effectively restores the normal **joint** alignment and provides a smooth bearing surface against which the femoral condyle can articulate. It minimizes articulation of the femoral condyle against the tibial plateau, thus preventing further degradation of the tibial surface. By occupying the **joint space** and retensioning the collateral ligaments, the **prosthetic** system improves **joint** stability and restores the limb to a more normal mechanical alignment.

DESCRIPTION OF DRAWING(S) - The figure is a top perspective view of a **prosthetic** system having the tibial component and the meniscal component.

Prosthetic system (100)
Tibial component (120')
Meniscal component (150)
pp; 16 DwgNo 11/16

Derwent Class: B07; D22; P32

International Patent Class (Main): A61F-002/38

DATE **11/7/2** **(Item 2 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

017093295 **Image available**
WPI Acc No: 2005-417623/200542
Interpositional arthroplasty system for repairing ginglymus joints e.g. joints of ankle, has tibiotalar implant that provides surface to be positioned against tibia and surface to be positioned against talus, and/or talus-calcaneus implant
Patent Assignee: ADVANCED BIO SURFACES INC (ADBI-N)
Inventor: FELT J C; MCGARVEY S; RYDELL M A
Number of Countries: 108 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200548872	A2	20050602	WO 2004US20456	A	20040625	200542	B

Priority Applications (No Type Date): US 2003483499 P 20030627
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200548872	A2	E	33	A61F-000/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

Abstract (Basic): WO 200548872 A2

NOVELTY - An interpositional arthroplasty system for use in repairing ginglymus **joints** e.g. **joints** of ankle, comprises tibiotalar **implant** (112) that provides first major surface to be positioned against tibia (120) and second major surface to be positioned against talus (108); and/or talus-calcaneus **implant** that provides first major surface adapted to be positioned against a talus and second major surface adapted to be positioned against calcaneus (110).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(A) a kit for a positional arthroplasty system for use in repairing ginglymus **joints** such as the **joints** of the ankle, comprising at least one **implant** from a tibiotalar **implant** that provides a first major surface adapted to be positioned against a tibia and a second major surface adapted to be positioned against a talus, and a talus-calcaneus **implant** that provides a first major surface adapted to be positioned against a talus and a second major surface adapted to be positioned against a calcaneus; and one or more devices adapted to perform method including preparing the **joint** to receive an **implant** , determining an appropriate **implant** size for a particular **joint**, determining an appropriate **implant** thickness and/or angle, inserting the **implant** into the **joint**, and/or securing the **implant** to a desired extent;

(B) a method of repairing a ginglymus **joint**, comprising the steps of providing and **implanting**;

(C) a ginglymus **joint** that includes an **implant** ;

(D) a kit comprising a tool useful for preparing a **joint** to receive an **implant** , an apparatus useful for determining an appropriate

implant size for the **joint**, an apparatus useful for determining an appropriate **implant** thickness, and a tool useful for inserting the **implant** into the **joint** and/or securing the **implant** to a desired extent; and

(E) a device for **implant**ation into an ankle **joint** **space** within the body of a mammal, comprising a composite or monolith structure fabricated from a **biocompatible** , biodurable material that is adapted to be inserted into the **joint** compartment.

USE - The interpositional arthroplasty system is used in repairing ginglymus **joints** e.g. **joints** of ankle (claimed).

ADVANTAGE - The system provides an optimal combination of properties such as ease of preparation and use, and performance within the body, and particularly for use in **joints** other than the knee. The **implant**ed device is free of anchoring portions that need to be attached to the bone (102), cartilage, ligaments or other tissue, yet by its design is capable of being used with minimal translation, rotation, or other undesired movement or dislocation within or from the **joint** **space** . Stability of the device within the **joint** **space** is provided by the fixation/congruency of the device to the one or the other of the two **joint** members.

DESCRIPTION OF DRAWING(S) - The figure is a side view of a foot and ankle region showing **implants** .

Foot (100)
Bone (102)
Talus (108)
Calcaneus (110)
Tibiotalar **implant** (112)
Subtalar **joint** (114)
Tibia (120)
pp; 33 DwgNo 1/6

Derwent Class: A96; D22; P32
International Patent Class (Main): A61F-000/00

DATE **11/7/3** **(Item 3 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
016857918
WPI Acc No: 2005-182200/200519

Interpositional arthroplasty implant for repairing knee joint has knee implant and structural feature in apposition to natural meniscus to permit retention of implant by meniscus and improve retention of implant itself upon tibial surface

Patent Assignee: ADVANCED BIO SURFACES INC (ADBI-N)
Inventor: BUSCEMI P J; FELT J C; GRIFFIN D; RYDELL M A
Number of Countries: 108 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200516175	A2	20050224	WO 2004US20458	A	20040625	200519	B

Priority Applications (No Type Date): US 2003483500 P 20030627
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200516175	A2	E	40	A61F-000/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ

NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

Abstract (Basic): WO 200516175 A2

NOVELTY - An interpositional arthroplasty **implant** adapted to be retained in position in apposition to a **joint** surface, at least in part, by surrounding healthy tissue comprises a knee **implant** and includes at least one structural feature adapted to be fixedly positioned within and/or in apposition to the natural meniscus to permit the **implant** to be retained by the meniscus and improve the retention of the **implant** itself upon the tibial surface.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a kit for positional arthroplasty system and comprising the **implant** and at least one device adapted to perform at least one step selected from preparing the **joint** to receive the **implant** , determining an appropriate **implant** size for a particular **joint**, inserting the **implant** into the **joint** and/or securing the **implant** .

USE - For repairing a knee **joint** (claimed).

ADVANTAGE - The polyurethane is **biocompatible** with respect to cytotoxicity, sensitization, genotoxicity, chronic toxicity and carcinogenicity; and has a shore hardness of at least less than or equal to 60 D. The **implant** provides various benefits including improved combination of comfort, alignment, cushioning and **long** term performance. The **cavity** is dimensioned and positioned to receive and/or itself be retained within or all of patient's own meniscal tissue. The **implant** is substantially free of anchoring portions that need to be attached to the bone, cartilage, ligaments or other tissue, yet by design is capable of being used with minimal translation, rotation or other undesired movement or dislocation within or from the **joint space**.

pp; 40 DwgNo 0/11

Derwent Class: A25; A96; D22; P32

International Patent Class (Main): A61F-000/00

11/7/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

016847505 **Image available**

WPI Acc No: 2005-171787/200518

Prosthesis for implantation into knee joint compartment between femoral condyle and corresponding tibial plateau, comprises hard body having elliptical shape in plan, and including bottom surface and opposed top surface having flat portion

Patent Assignee: FELL B M (FELL-I)

Inventor: FELL B M

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20050033424	A1	20050210	WO 99US7309	A	19990402	200518	B
			US 99297943	A	19990510		
			US 2000664939	A	20000919		
			US 2001934364	A	20010821		
			US 2002232608	A	20020830		
			US 2004941729	A	20040915		

Priority Applications (No Type Date): US 2004941729 A 20040915; WO 99US7309 A 19990402; US 99297943 A 19990510; US 2000664939 A 20000919; US 2001934364 A 20010821; US 2002232608 A 20020830

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20050033424 A1			14	A61F-002/08	Cont of application WO 99US7309 Cont of application US 99297943 CIP of application US 2000664939 Cont of application US 2001934364 CIP of application US 2002232608 Cont of patent US 6206927 CIP of patent US 6558421

Abstract (Basic): US 20050033424 A1

NOVELTY - A **prosthesis** for **implant**ation into a knee **joint** compartment between femoral condyle and its corresponding tibial plateau, comprises hard body (102) having elliptical shape in plan, and including a bottom surface (104) and an opposed top surface (106). The top surface has a first, flat portion (107).

USE - For **implant**ation into a knee **joint**, for correcting misalignment in an axis of rotation of a knee **joint** (claimed).

ADVANTAGE - Excessive **prosthesis** motion is reduced. The **prosthesis** is a unicompartmental device for minimally invasive, surgical **implant**ation into a knee compartment requiring little or no bone resection. By effectively replacing worn articular material, the **prosthesis** restores the normal **joint** alignment and provides a smooth bearing surface against which the femoral condyle can articulate. Degeneration of the femoral anatomy is reduced because the conforming femoral surface of the **prosthesis** accommodates the complex shape of the femoral condyle in extension and in flexion. The device eliminates articulation of the femoral condyle against the tibial plateau, thus preventing further degradation of the tibial surface. By occupying the **joint space** and retensioning the collateral ligaments, the **prosthesis** improves **joint** stability and restores the limb to a more normal mechanical alignment.

DESCRIPTION OF DRAWING(S) - The figure is a perspective view of an **implant**able knee **prosthesis** .

Body (102)
Bottom surface (104)
Top surface (106)
Flat portion (107)
Concave portion (109)
pp; 14 DwgNo 1/10

Derwent Class: D22; P32
International Patent Class (Main): A61F-002/08

DATE **11/7/6** **(Item 6 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

015514040 **Image available**
WPI Acc No: 2003-576187/200354

Repair of cartilaginous tissue defect involves implanting scaffold into the defect, and administering biological lubricant to the defect where biological lubricant is not crosslinked to scaffold

Patent Assignee: MALAVIYA P (MALA-I); PLOUHAR P L (PLOU-I); SCHWARTZ H E (SCHW-I)

Inventor: MALAVIYA P; PLOUHAR P L; SCHWARTZ H E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030033021	A1	20030213	US 2001305786	P	20010716	200354 B
			US 2002388724	P	20020614	
			US 2002195334	A	20020715	

Priority Applications (No Type Date): US 2002195334 A 20020715; US 2001305786 P 20010716; US 2002388724 P 20020614
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030033021	A1		14	A61F-002/28	Provisional application US 2001305786
					Provisional application US 2002388724

Abstract (Basic): US 20030033021 A1

NOVELTY - Repairing cartilaginous tissue defect, comprising **implanting** a scaffold into the defect, and administering a biological lubricant to the defect, where the biological lubricant is not **crosslinked** to the scaffold, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) a cartilage repair device, comprising a synthetic **polymer** scaffold; and the biological lubricant applied to the **polymer** ; and

(b) making the cartilage repair device, comprising providing the scaffold, providing the biological lubricant in liquid form, and wetting the scaffold with the liquid biological lubricant to form a wet **implant** .

USE - For repairing a cartilaginous tissue defect.

ADVANTAGE - The combination of the **biocompatible** scaffold and the biological component produces a synergistic effect. Healing rates and/or quality of healing is better than the healing expected from additive effects of the scaffold or HA alone. The retention of HA at the defect site is not problematic and co-administration of the scaffold and HA does not require HA to be **cross-linked** to the scaffold material.

DESCRIPTION OF DRAWING(S) - The drawing is a diagrammatical view showing a tibial platform below condyles of a femur.

Meniscus (11).

pp; 14 DwgNo 1/12

Derwent Class: A14; A23; A96; B04; B07; D22; P32
International Patent Class (Main): A61F-002/28

DATE **11/7/7** **(Item 7 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

015429948 **Image available**
WPI Acc No: 2003-492090/200346
Repair of cartilagenous tissue defect e.g. in the knee, by implanting scaffold in defect, and administering biological lubricant
Patent Assignee: MALAVIYA P (MALA-I); PLOUHAR P L (PLOU-I); SCHWARTZ H E (SCHW-I)
Inventor: MALAVIYA P; PLOUHAR P L; SCHWARTZ H E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030033022	A1	20030213	US 2001305786	P	20010716	200346 B
			US 2002388724	P	20020614	

US 2002195606 A 20020715

Priority Applications (No Type Date): US 2002195606 A 20020715; US 2001305786 P 20010716; US 2002388724 P 20020614

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030033022 A1			16	A61F-002/28	Provisional application US 2001305786 Provisional application US 2002388724

Abstract (Basic): US 20030033022 A1

NOVELTY - Cartilagenous tissue defect e.g. in the knee is repaired by **implanting** scaffold into the defect, and administering biological lubricant to the defect.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) a cartilage repair device comprising naturally occurring extracellular matrix and biological lubricant applied to the matrix; and

(b) making a cartilage repair device by providing naturally occurring extracellular matrix, providing biological lubricant in liquid form, and wetting the matrix with the lubricant to form a wet **implant** .

ACTIVITY - Osteopathic. A meniscus was prepared and a small intestine submucosa (SIS) device was inserted into the **space** created and secured by suturing with 5-0 nylon. The incisions were closed and 2 ml of a solution of 1% sodium hyaluronate (molecular weight 2.4-3.6 million Daltons) was injected into the knee **joint cavity** adjacent to the SIS device. After 3 weeks, 95% or more regeneration of the meniscal defect was seen in 2 out of 3 dogs. Moreover the cartilage was mature and was similar in appearance to natural tissue. Use of the SIS **implant** alone without the injections, resulted in approximately 80% tissue regeneration in 1 dog and less than 50% regeneration in 2 of the 3 dogs.

MECHANISM OF ACTION - Cell therapy.

USE - For repairing cartilagenous tissue defect, e.g. in the knee (claimed).

ADVANTAGE - The use of a combination of scaffold containing small intestine submucosa (SIS), and biological lubricant such as hyaluronic acid produces synergistic effect in cartilage repair. Healing rate and/or quantity of healing is better than the healing expected from additive effects of SIS or HA alone.

DESCRIPTION OF DRAWING(S) - The figure is a diagrammatical view showing a tibial platform.

Meniscus (11)

Defect (14)

Space (16)

pp; 16 DwgNo 1/12

Derwent Class: B04; B07; D22; P32

International Patent Class (Main): A61F-002/28

International Patent Class (Additional): A61F-002/38

DATE **11/7/8** **(Item 8 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

015168991 **Image available**

WPI Acc No: 2003-229519/200322

Repairing cartilaginous tissue defect in knee joint cavity , involves implanting scaffold into defect and administering biological lubricant to

defect which does not cross-linked with scaffold

Patent Assignee: DEPUY PROD INC (DEPU-N)
Inventor: MALAVIYA P; PLOUHAR P L; SCHWARTZ H E
Number of Countries: 101 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200307879	A2	20030130	WO 2002US22411	A	20020715	200322	B
EP 1416886	A2	20040512	EP 2002747021	A	20020715	200431	
			WO 2002US22411	A	20020715		
AU 2002316696	A1	20030303	AU 2002316696	A	20020715	200452	
JP 2004535252	W	20041125	WO 2002US22411	A	20020715	200477	
			JP 2003513488	A	20020715		

Priority Applications (No Type Date): US 2002388724 P 20020614; US 2001305786 P 20010716
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200307879	A2	E	31	A61K-000/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

EP 1416886	A2	E		A61F-002/08	Based on patent WO 200307879

Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

AU 2002316696	A1			A61K-000/00	Based on patent WO 200307879
JP 2004535252	W		68	A61F-002/28	Based on patent WO 200307879

Abstract (Basic): WO 200307879 A2

NOVELTY - Repair (M1) of a cartilaginous tissue defect comprising **implant**ing a scaffold into the defect and administering a biological lubricant to the defect, is new. The biological lubricant is not **cross-link**ed to the scaffold.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a cartilage repair device comprising a synthetic **polymer** scaffold and a biological lubricant applied to the **polymer** ; and

(2) making a cartilage repair device (210), which involves providing a scaffold, providing a biological lubricant in liquid form and wetting the scaffold with the liquid biological lubricant to form a wet **implant** .

USE - (M1) is useful for repairing damaged or diseased cartilage in knee **joint cavity** and in meniscus.

ADVANTAGE - The combination of **biocompatible** scaffold and hyaluronic acid produces synergistic effect and promotes healing rates and/or quality of healing. The biological lubricant plays a role in directly or indirectly influencing cellular behavior by involving in signal transduction alone or in conjunction with other extracellular matrix components such as growth factors, glycoproteins and collagens. Hence the biological lubricant provides both biological function and mechanical function by providing lubrication. The interconnecting pores or voids in the scaffolds facilitates the transport of nutrients and/or invasion of cells into the scaffold.

DESCRIPTION OF DRAWING(S) - The figure shows the **cross**-sectional view of the cartilage repair device **implant**ed in subchondral bone.

Cartilage repair device (210)

Anchor (212)
pp; 31 DwgNo 11/12
Derwent Class: B04; D22; P32; P34
International Patent Class (Main): A61F-002/08; A61F-002/28; A61K-000/00
International Patent Class (Additional): A61F-002/38; A61F-002/46; A61L-031/00

DATE **11/7/9** **(Item 9 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

015168986 **Image available**
WPI Acc No: 2003-229514/200322
Repair of cartilaginous tissue defect in knee joint cavity , and meniscus, involves implanting scaffold into defect and administering biological lubricant to defect
Patent Assignee: DEPUY PROD INC (DEPU-N)
Inventor: MALAVIYA P; PLOUHAR P L; SCHWARTZ H E; JENKS P J; LOWER J L; PELO M J; WHALEN T D; ORBAN J M; SINGLA A K; MALAYIVA P; ZANNIS A D
Number of Countries: 101 Number of Patents: 010
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200307787	A2	20030130	WO 2002US22357	A	20020715	200322	B
EP 1416887	A2	20040512	EP 2002750033	A	20020715	200431	
			WO 2002US22357	A	20020715		
AU 2002320512	A1	20030303	AU 2002320512	A	20020715	200452	
AU 2002354911	A1	20030303	AU 2002354911	A	20020715	200452	
AU 2002354912	A1	20030303	AU 2002354912	A	20020715	200452	
AU 2002354913	A1	20030303	AU 2002354913	A	20020715	200452	
AU 2002354915	A1	20030303	AU 2002354915	A	20020715	200452	
JP 2004535243	W	20041125	WO 2002US22357	A	20020715	200477	
			JP 2003513401	A	20020715		
JP 2005193049	A	20050721	JP 2004380779	A	20041228	200548	N
EP 1554989	A1	20050720	EP 2004258075	A	20041223	200548	N

Priority Applications (No Type Date): US 2002388724 P 20020614; US 2001305786 P 20010716; US 2002388713 P 20020614; US 2002388761 P 20020614; US 2002392487 P 20020629; US 2002388951 P 20020614; EP 2004258075 A 20041223; JP 2004380779 A 20041228
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200307787	A2	E	35	A61B-000/00	
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW				
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW					
EP 1416887	A2	E		A61F-002/08	Based on patent WO 200307787
Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
AU 2002320512	A1			A61B-000/00	Based on patent WO 200307787
AU 2002354911	A1			A61B-000/00	Based on patent WO 200307784
AU 2002354912	A1			A61B-000/00	Based on patent WO 200307786
AU 2002354913	A1			A61B-000/00	Based on patent WO 200307788
AU 2002354915	A1			A61B-000/00	Based on patent WO 200307789

JP 2004535243 W 75 A61F-002/30 Based on patent WO 200307787
JP 2005193049 A 25 A61F-002/38
EP 1554989 A1 E A61F-002/00
Designated States (Regional): AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR YU
Abstract (Basic): WO 200307787 A2

NOVELTY - Repair (M1) of cartilaginous tissue defect comprising **implanting** a scaffold into the defect and administering a biological lubricant to the defect, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a cartilage repair device (20) comprising naturally occurring extracellular matrix and a biological lubricant applied to the extracellular matrix; and

(2) making a cartilage repair device which involves wetting the naturally occurring extracellular matrix with the liquid biological lubricant to form a wet **implant** .

USE - (M1) is useful for repairing cartilaginous tissue defect in knee **joint cavity** and in meniscus.

ADVANTAGE - The combination of small intestine sub-mucosa and hyaluronic acid produces synergistic effect in cartilage repair. The defects in cartilaginous tissue are repaired efficiently and healed at high rate when compared to individual small intestine sub-mucosa and hyaluronic acid.

DESCRIPTION OF DRAWING(S) - The figure shows an inserted device in a position to be attached to the portions of the meniscus remaining after the injured portion is removed.

Device (20)

pp; 35 DwgNo 3/12

Derwent Class: A96; B04; B07; D16; D22; P31; P32; P34
International Patent Class (Main): A61B-000/00; A61F-002/00; A61F-002/08; A61F-002/30; A61F-002/38
International Patent Class (Additional): A61B-017/064; A61F-002/28; A61L-027/00

DATE **11/7/10** **(Item 10 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

014583827 **Image available**
WPI Acc No: 2002-404531/200243

System for creation or modification of wear surface of orthopedic joint in mammals, comprises partially or fully preformed polymeric components, adapted to be inserted and positioned at joint site to provide implant

Patent Assignee: ADVANCED BIO SURFACES INC (ADBI-N); ARSENYEV A (ARSE-I); BUSCEMI P J (BUSC-I); FELT J C (FELT-I); PORTER C H (PORT-I); RYDELL M A (RYDE-I)
Inventor: ARSENYEV A; BUSCEMI P J; FELT J C; PORTER C H; RYDELL M A
Number of Countries: 097 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200217821	A2	20020307	WO 2001US41908	A	20010828	200243	B
AU 200185488	A	20020313	AU 200185488	A	20010828	200249	
US 20020127264	A1	20020912	US 2000228444	P	20000828	200262	
			WO 2001US41908	A	20010828		
			US 200298601	A	20020315		

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US 20020173852  A1  20021121  US 2000228444   P   20000828  200279
                              WO 2001US41908  A   20010828
                              US 200298601    A   20020315
                              US 2002121455   A   20020412
                              US 2002167963   A   20020612
US 20020183850  A1  20021205  US 2000228444   P   20000828  200301
                              WO 2001US41908  A   20010828
                              US 200298601    A   20020315
                              US 2002121455   A   20020412
EP 1315470      A2  20030604  EP 2001964653   A   20010828  200337
                              WO 2001US41908  A   20010828
US 20040107000  A1  20040603  US 2000228444   P   20000828  200436
                              WO 2001US41908  A   20010828
                              US 200298601    A   20020315
                              US 2002121455   A   20020412
                              US 2002167963   A   20020612
                              US 2003722019   A   20031124
JP 2004521666   W   20040722  WO 2001US41908  A   20010828  200448
                              JP 2002522799   A   20010828
Priority Applications (No Type Date): US 2000228444 P 20000828; US
  200298601 A 20020315; US 2002121455 A 20020412; US 2002167963 A 20020612;
  US 2003722019 A 20031124
Patent Details:
Patent No  Kind Lan Pg   Main IPC     Filing Notes
WO 200217821  A2 E  53 A61F-002/30
   Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
   CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN
   IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
   PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
   Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
   IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
AU 200185488  A         A61F-002/30   Based on patent WO 200217821
US 20020127264 A1       A61F-002/36   Provisional application US 2000228444

                                      Cont of application WO 2001US41908
US 20020173852 A1       A61F-002/38   Provisional application US 2000228444

                                      Cont of application WO 2001US41908
                                      CIP of application US 200298601
                                      CIP of application US 2002121455
US 20020183850 A1       A61F-002/38   Provisional application US 2000228444

                                      Cont of application WO 2001US41908
                                      CIP of application US 200298601
EP 1315470    A2 E      A61F-002/30   Based on patent WO 200217821
   Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
   LI LT LU LV MC MK NL PT RO SE SI TR
US 20040107000 A1       A61F-002/38   Provisional application US 2000228444

                                      Cont of application WO 2001US41908
                                      CIP of application US 200298601
                                      CIP of application US 2002121455
                                      Div ex application US 2002167963
                                      Div ex patent US 6652587
JP 2004521666 W    136 A61F-002/30   Based on patent WO 200217821
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Abstract (Basic): WO 200217821 A2

NOVELTY - A system for creation or modification of wear surface of an orthopedic **joint** within a mammalian body, comprises one or more partially or fully preformed **polymeric** components, adapted to be inserted and positioned at the **joint** site to provide an **implant** (10) having first major surface(s) (12) in apposition to supporting bone, and second major surface(s) (14) in apposition to opposing bone.

USE - For repairing variety of mammalian **joints**, such as tibial plateau of knee, acetabulum of hip, glenoid of shoulder, acromion process of shoulder, acromio-clavicular **joint** of shoulder, distal tibial surface of ankle, radial head of elbow, distal radius of forearm, proximal phalanx surface of great toe, proximal metacarpal surface of thumb, or trapezium of wrist, especially for repairing tibial plateau of knee or acetabulum of hip.

ADVANTAGE - The system formed in-vivo at **joint** site enhances conformance and improves **long** term performance. The use of **biomaterial** in the system, improves course of preparation of storage, stability, improves ease of use, adaptability and predictability. Hence, exhibits excellent biocompatability, moisture cure characteristics, tissue congruity and conformability, retention, wear characteristics and physical-mechanical properties. The system enables gradual articulation of bones in course of **long** term use. The system having excellent fracture toughness, effectively prevents fibrillated articular cartilage. The system when **implant**ed in ball and socket **joints**, provides soft, conformable and durable lining for placement of hip **prosthetic** portion. The **implant** which functions as **spacer** or impact absorber, improves coefficient of friction between surfaces, increases the weight bearing area and improves congruency of **joint** surfaces. The system enables access to the site in minimal invasive manner.

DESCRIPTION OF DRAWING(S) - The figure shows the top and side perspective of knee **implant** .

Implant (10)

First and second major surfaces (12,14)

pp; 53 DwgNo 1/11

Derwent Class: A96; B04; D22; E12; E13; P32; P34
International Patent Class (Main): A61F-002/30; A61F-002/36; A61F-002/38
International Patent Class (Additional): A61L-027/00; A61L-027/18

26/7/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

007941319
WPI Acc No: 1989-206431/198928

Bifunctional long - chain spacer for immobilising bio-molecules - has defined min. chain length between functional gps., one of which is latent and activated by given stimulus, e.g. light

Patent Assignee: BIO-METRIC SYSTEMS (BIOM-N); BIO METRIC SYSTEMS INC (BIOM-N); BSI CORP (BSIB-N); BIO-METRIC SYSTEMS INC (BIOM-N)
Inventor: DUNKIRK S G; GUIRE P E; JOSEPHSON M W; SWANSON M J; DUNKIRK S; GUIRE P; DUNKIRK G
Number of Countries: 016 Number of Patents: 014
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8905616	A	19890629	WO 88US4491	A	19881215	198928	B
NO 9002790	A	19900822				199045	

DK 9001525	A	19900824				199046
EP 407390	A	19910116	EP 89901420	A	19881215	199103
JP 3503005	W	19910711	JP 89501343	A	19881215	199134
US 5217492	A	19930608	US 82428074	A	19820929	199324
			US 86920567	A	19861017	
			US 87108765	A	19871015	
			US 87138226	A	19871224	
			US 90499193	A	19900323	
			US 91681478	A	19910403	
US 5258041	A	19931102	US 82428074	A	19820929	199345
			US 86920567	A	19861017	
			US 87108765	A	19871015	
			US 87138226	A	19871224	
			US 89447805	A	19891208	
			US 91671621	A	19910319	
EP 407390	A4	19911211	EP 89901420	A	19881215	199520
CA 1335721	C	19950530	CA 585352	A	19881208	199529
EP 407390	B1	19960424	WO 88US4491	A	19881215	199621
			EP 89901420	A	19881215	
DE 3855238	G	19960530	DE 3855238	A	19881215	199627
			WO 88US4491	A	19881215	
			EP 89901420	A	19881215	
NO 180657	B	19970210	WO 88US4491	A	19881215	199713
			NO 902790	A	19900622	
JP 2855223	B2	19990210	WO 88US4491	A	19881215	199911
			JP 89501343	A	19881215	
CA 1340345	C	19990126	CA 585351	A	19881208	199915

Priority Applications (No Type Date): US 87138226 A 19871224; US 82428074 A 19820929; US 86920567 A 19861017; US 87108765 A 19871015; US 90499193 A 19900323; US 91681478 A 19910403; US 89447805 A 19891208; US 91671621 A 19910319; US 88223149 A 19880722

Cited Patents: 1.Jnl.Ref; US 4160698; US 4722906; WO 8802623; EP 175973; EP 228225; EP 295073; EP 938; US 4007089; WO 9000887

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8905616	A	E	67		
Designated States (National): DK JP NO					
Designated States (Regional): AT BE CH DE FR GB IT LU NL SE					
EP 407390	A				
Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE					
US 5217492	A		18	A61F-002/02	CIP of application US 82428074
					CIP of application US 86920567
					CIP of application US 87108765
					Div ex application US 87138226
					Cont of application US 90499193
					CIP of patent US 4722906
					CIP of patent US 4973493
US 5258041	A		18	A61F-002/54	CIP of application US 82428074
					CIP of application US 86920567
					CIP of application US 87108765
					Div ex application US 87138226
					Cont of application US 89447805
					CIP of patent US 4722906
					CIP of patent US 4973493
EP 407390	B1	E	27	A61F-002/54	Based on patent WO 8905616

Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE

DE 3855238	G		A61F-002/54	Based on patent EP 407390
				Based on patent WO 8905616
NO 180657	B		G01N-033/543	Previous Publ. patent NO 9002790
JP 2855223	B2	24	A61L-027/00	Previous Publ. patent JP 3503005
				Based on patent WO 8905616
CA 1335721	C		C12N-011/08	
CA 1340345	C		B05D-003/06	

Abstract (Basic): WO 8905616 A

Long chain spacer, for attaching a biomolecule to a support, has a backbone bearing 2 reactive gps. separated by a backbone extended **chain length** of not less than 25 Angstroms, one gp. being a latent gp. capable of forming a covalent bond to the support surface in response to a given stimulus, and the other gp. being capable of forming a covalent bond to a biomolecule. Both gps. may be latent and responsive to different stimuli.

Compsn. for rendering a support surface **biocompatible** comprises a biomolecule attached to the **spacer** at a distance of at least 25 Angstroms from the latent gp. capable of bonding to the support. **Biomaterial** is also claimed comprising biomolecules attached to a support via the **spacer**.

USE/ADVANTAGE - Useful for immobilising eg various cell growth factors, antimicrobial agents (lysozyme, penicillins), antithrombogenic agents (heparin, streptokinase, TPA), thrombogenic agents (collagen), and other proteins, carbohydrates, fatty acids, etc. The biomolecule is sufficiently **spaced** from the surface to reduce interactions and give a more natural conformation and/or activity. Materials which may be rendered **biocompatible** include metal, **polymeric** or ceramic **prostheses** (vascular grafts, contact or intraocular lenses, artificial organs), blood contact materials (oxygenator tubing, blood bags), catheters, sutures, etc.

(Dwg.0/1

Abstract (Equivalent): EP 407390 B

A **long chain spacer** for tethering a bio-molecule to a support surface without pre-activation of the support surface, the **spacer** having a chemical backbone bearing two reactive groups separated by a backbone extended **chain length** of not less than about 25 Angstroms, with no latent reactive groups therebetween, one such reactive group (I) being a latent photoreactive group capable of forming a covalent bond to the support surface in response to actinic radiation, and the other reactive group (II) being capable of forming a covalent bond to a bio-molecule.

Dwg.0/12

Abstract (Equivalent): US 5258041 A

Bio molecule attachment comprises (a) attaching a **spacer** contg. hydrophilic chemical **chain** carrying a hydrophobic guiding gp. which may become embedded in the hydrophobic surface of the support; and (b) covalently bonding a bio molecule to the **spacer**.

Spacer has a stopping gp. that is hydrophilic to the guiding gp. and hydrophobic surface of the support, **along** the **length**. Stopping gp. lies between most of the hydrophilic **chain** and guiding gp. Guiding gp. comprises an omega amino undecanoic acid, an epsilon aminocaproic acid, a gamma aminobutyric acid, or beta-alanine.

ADVANTAGE - **Spacer length** may be adjusted to optimise specific activities of a bio molecule. Reaction conditions for coupling the

spacer avoid damaging the bio molecule.
Dwg. 1/1
US 5217492 A
Spacer for attaching biomolecule (I) to a support with a hydrophobic surface can covalently bond to (I). It comprises a hydrophilic chemical **chain** carrying a hydrophobic guiding gp. which can become embedded in the surface.
It also has a stopping gp. positioned between the bulk of the hydrophobic **chain** and the guiding gp.. The stopping gp. is hydrophilic to the guiding gp. and to the surface. The guiding gp. is derived from an aminoalkyl carboxylic acid, esp. omega-aminoundecanoic acid, epsilon-aminocaproic acid, gamma-aminobutyric acid or beta-alanine.
ADVANTAGE - Adverse changes in (I) due to the effect of the support are avoided.
Dwg.0/1
Derwent Class: A18; A25; A82; A96; B04; B07; D22; G02; P32; P34; P42
International Patent Class (Main): **A61F-002/02** ; **A61F-002/54** ; **A61L-027/00** ; B05D-003/06; C12N-011/08; G01N-033/543
International Patent Class (Additional): A61L-017/00; A61L-029/00; A61L-031/00; A61L-033/00; C07K-011/08; G01N-033/566

27/26,TI/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
017535965
WPI Acc No: 2006-047205/ **200605**
Biodegradable coating on a surface of a medical device useful for delivering a therapeutic agent, comprises polyamino acids derivatized to have a hydrophobic hydrocarbon side chain

27/26,TI/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
017527502
WPI Acc No: 2006-038742/ **200604**
Providing a coating to a medical device, comprises disposing a coating composition comprising a biomolecule on the device having a layer comprising acrylate polymer with a pendent first reactive group

27/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
017515275
WPI Acc No: 2006-026512/ **200603**
Composition, useful for coating the surface of a medical device with a bioactive agent, comprising a bioactive agent in combination with polymers that includes a first and second polymer components

27/26,TI/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
017453593
WPI Acc No: 2005-777268/ **200579**
Composition permitting release of active agent over time, useful for coating medical device, comprises agent in combination with first polymer

which is at least polybutene and second polymer (poly(alkyl or aromatic(meth)acrylate)

27/26,TI/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
015417659
WPI Acc No: 2003-479799/ **200345**
Demineralized bone putty composition used for increasing bone formation in humans and animals, comprises demineralized bone matrix and lipid fraction containing lecithin and/or triglycerides containing unsaturated fatty acids

27/26,TI/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
015161364
WPI Acc No: 2003-221892/ **200321**
Manufacturing biodegradable organic polymer/inorganic particle composite for bone fixation, by dispersing inorganic fine particle in biodegradable organic monomer, polymerizing and forming into desired shape

27/26,TI/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
014668945
WPI Acc No: 2002-489649/ **200252**
Biphasic injectable composition for tissue volume replacement and as material in plastic and reconstructive surgery, comprises solid polymer phase and carrier substrate phase

27/26,TI/16 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
014385451
WPI Acc No: 2002-206154/ **200226**
Preparing bioactive implant surfaces, useful as joint or bone prostheses, comprises applying layer of anchoring molecules then immobilizing mediators by hydrophobic interaction

27/26,TI/18 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
014276677
WPI Acc No: 2002-097379/ **200213**
Making substrates, i.e. drug delivery device, biocompatible , involves contacting oppositely charged substrate and starting material, and initiating alternating charge layer electrostatic self-assembly to form thin film

27/26,TI/19 (Item 19 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
014142131
WPI Acc No: 2001-626342/ **200172**
Artificial bone as osteoconductive and osteoinductive biodegradable

substitute for bone cements, allografts, and autografts, comprises calcium phosphate artificial bone cement and polyphosphate

27/26,TI/24 (Item 24 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
012976146
WPI Acc No: 2000-147995/ **200014**
Smooth, adherent, abrasion-resistant, repellent fluoropolymer coatings on implants, prostheses or medical instruments, obtained by pulsed laser deposition

27/26,TI/25 (Item 25 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
012459692
WPI Acc No: 1999-265800/199923
Biocompatible polymeric coatings

27/26,TI/26 (Item 26 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
011341552
WPI Acc No: 1997-319457/199729
Random block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) - useful in drug delivery implants, and implantable medical devices e.g. for preventing formation of adhesions between injured tissues

27/26,TI/27 (Item 27 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
009755146
WPI Acc No: 1994-034997/199404
Inter-penetrating polymer network biomaterial - contg. acidic polysaccharide, pref. hyaluronic acid, and synthetic polymer, used e.g. as sponge or gauze contg. active mol

DATE **27/7/8 (Item 8 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2006 Thomson Derwent. All rts. reserv.
015901400
WPI Acc No: 2004-059240/ **200406**
Thermoplastic block copolymer used as biomaterials in medical devices, e.g. catheter, comprises poly(vinyl pyrrolidone)
Patent Assignee: MEDTRONIC INC (MEDT); ALKATOUT J A (ALKA-I); BENZ M E (BENZ-I); LYU S (LYUS-I)
Inventor: ALKATOUT J A; BENZ M E; LYU S
Number of Countries: 029 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20030162905	A1	20030828	US 2002360725	P	20020227	200406	B
			US 2002246806	A	20020917		
WO 200372158	A1	20030904	WO 2003US5858	A	20030207	200406	
US 6756449	B2	20040629	US 2002360725	P	20020227	200443	
			US 2002246806	A	20020917		

EP 1482997 A1 20041208 EP 2003709356 A 20030207 200480
WO 2003US5858 A 20030207
JP 2005518841 W 20050630 JP 2003570901 A 20030207 200543
WO 2003US5858 A 20030207
Priority Applications (No Type Date): US 2002360725 P 20020227; US 2002246806 A 20020917
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 20030162905 A1 18 C08F-293/00 Provisional application US 2002360725

WO 200372158 A1 E A61L-029/08
Designated States (National): CA JP
Designated States (Regional): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT SE SI SK TR
US 6756449 B2 C08L-075/00 Provisional application US 2002360725
EP 1482997 A1 E A61L-029/08 Based on patent WO 200372158
Designated States (Regional): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT SE SI SK TR
JP 2005518841 W 48 A61L-027/00 Based on patent WO 200372158

Abstract (Basic): US 20030162905 A1
NOVELTY - A thermoplastic block co**polymer** comprises a poly(vinyl **pyrrolidone**) **polymer**.
DETAILED DESCRIPTION - A thermoplastic AnB block co**polymer** comprises poly(vinyl **pyrrolidone**).
A=poly(vinyl **pyrrolidone**) units;
B= **long** - **chain** organic connecting unit having urethane, urea, imide, amide and/or ether;
n=at least2.
INDEPENDENT CLAIMS are also included for:
(a) a method of modifying a surface of a medical device comprising preparing a thermoplastic block co**polymer**; and applying the co**polymer** to the surface of the medical device; and
(b) a method of preparing a thermoplastic block co**polymer** comprising reacting a monofunctional poly(vinyl pyrollidone) with functionalized B-block precursor reactants to form the thermoplastic.
USE - Used as **biomaterials** in medical devices, e.g. catheter or lead delivery catheter (claimed)
ADVANTAGE - The invented block co**polymer** can easily manufacture the medical devices.
pp; 18 DwgNo 0/0
Derwent Class: A14; A28; A96; P34
International Patent Class (Main): **A61L-027/00** ; A61L-029/08; C08F-293/00; C08L-075/00
International Patent Class (Additional): A61K-031/79; A61L-029/00; A61L-029/14; A61L-031/00; A61L-033/00; C08G-081/02

DATE **27/7/9** **(Item 9 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

015659359
WPI Acc No: 2003-721546/ **200368**
Interpositional arthroplasty system for creation or modification of orthopedic joint within mammalian body, comprises partially or fully preformed polymeric component(s) to be inserted and positioned at joint

site to provide knee implant

Patent Assignee: ADVANCED BIO SURFACES INC (ADBI-N); ARSENYEV A (ARSE-I); BUSCEMI P J (BUSC-I); FELT J C (FELT-I); LYNCH L E (LYNC-I); MORTENSON K M (MORT-I); PORTER C H (PORT-I); RYDELL M A (RYDE-I)

Inventor: ARSENYEV A; BUSCEMI P J; FELT J C; LYNCH L E; MORTENSON K M; PORTER C H; RYDELL M A

Number of Countries: 103 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200361522	A2	20030731	WO 2003US2142	A	20030122	200368	B
US 6652587	B2	20031125	US 2000228444	P	20000828	200378	
			WO 2001US41908	A	20010828		
			US 200298601	A	20020315		
			US 2002121455	A	20020412		
			US 2002167963	A	20020612		
AU 2003205319	A1	20030902	AU 2003205319	A	20030122	200422	
EP 1474071	A2	20041110	EP 2003703997	A	20030122	200473	
			WO 2003US2142	A	20030122		
US 20040247641	A1	20041209	US 2002349367	P	20020122	200481	
			WO 2003US2142	A	20030122		
			US 2004500929	A	20040708		
JP 2005515810	W	20050602	JP 2003561468	A	20030122	200541	
			WO 2003US2142	A	20030122		

Priority Applications (No Type Date): US 2002167963 A 20020612; US 2002349367 P 20020122; US 200298601 A 20020315; US 2002121455 A 20020412; US 2000228444 P 20000828; WO 2001US41908 A 20010828; US 2004500929 A 20040708

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200361522	A2	E	60	A61F-000/00	
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW				
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT SD SE SI SK SL SZ TR TZ UG ZM ZW					
US 6652587	B2			A61F-002/38	Provisional application US 2000228444 Cont of application WO 2001US41908 CIP of application US 200298601 CIP of application US 2002121455
AU 2003205319	A1			A61F-000/00	Based on patent WO 200361522
EP 1474071	A2	E		A61F-002/00	Based on patent WO 200361522
Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
US 20040247641	A1			A61F-002/00	Provisional application US 2002349367
JP 2005515810	W		36	A61F-002/38	Based on patent WO 200361522

Abstract (Basic): WO 200361522 A2

NOVELTY - Interpositional arthroplasty system for creation or modification of an orthopedic **joint** within a mammalian body, comprises partially or fully preformed **polymeric** component(s) to be inserted and positioned at a **joint** site to provide a knee **implant** having at least one major surface in apposition to supporting bone, and at least a second major surface in apposition to opposing bone.

DETAILED DESCRIPTION - Interpositional arthroplasty system for

creation or modification of an orthopedic **joint** within a mammalian body, comprises partially or fully preformed **polymeric** component(s) to be inserted and positioned at a **joint** site to provide a knee **implant** having at least one major surface in apposition to supporting bone, and at least a second major surface in apposition to opposing bone. The first major surface is positioned upon and congruent with the tibial surface of the knee, and the second major surface is adapted to be positioned against the femoral condyle of the knee. The second major surface has a femoral glide path to facilitate its performance in situ, the glide path being in the form of a central depression. The **implant** further comprises tibial projection(s) to extend distally over the rim of the tibial plateau to improve fixation in situ.

USE - For creation or modification of orthopedic **joint** within mammalian body.

ADVANTAGE - The components can be partially cured and formed ex vivo and further formed in vivo at the **joint** site to enhance conformance and improve **long** term performance. The **biomaterials** provide sterility, storage stability, ease of use, adaptability, predictability, **biocompatibility** , moisture cure characteristics, tissue congruity and conformability, retention, wear characteristics, and physical-mechanical properties.

pp; 60 DwgNo 0/16

Derwent Class: A25; A96; D22; P32; P34
International Patent Class (Main): **A61F-000/00** ; **A61F-002/00** ; **A61F-002/38**
International Patent Class (Additional): **A61L-027/00**

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File 350:Derwent WPIX 1963-2006/UD,UM &UP=200605
         (c) 2006  Thomson Derwent
File 349:PCT FULLTEXT 1979-2005/UB=20051229,UT=20051222
         (c) 2005 WIPO/Univentio
File 348:EUROPEAN PATENTS 1978-2005/Dec W04
         (c) 2006 European Patent Office
Set     Items   Description
S1         15   AU='PEDERSEN W' OR AU='PEDERSEN W B' OR AU='PEDERSEN WALTH-
              ER BATSBERG'
S2          6   AU='STEENSTRUP F R' OR AU='STEENSTRUP FREDERIK RESEN'
S3         69   AU='OLSEN OLE INGEMANN' OR AU='OLSEN OLE' OR AU='OLSEN O I'
              OR AU='OLSEN O'
S4          5   AU='JAKOBSEN L' OR AU='JAKOBSEN L D' OR AU='JAKOBSEN LENE -
             DINESS'
S5          3   AU='VRAA E' OR AU='VRAA ERIK'
S6          7   AU='LAURITZEN J' OR AU='LAURITZEN J B' OR AU='LAURITZEN JES
              BRUUN'
S7         12   AU='BECHGAARD K' OR AU='BECHGAARD KLAUS'
S8          3   S1 AND S2 AND S3 AND S4 AND S5 AND S6 AND S7
S9          3   IDPAT (sorted in duplicate/non-duplicate order)
S10         1   IDPAT (primary/non-duplicate records only)
S11    416627   JOINT? ?
S12    244068   PROSTHE???? OR IMPLANT? ? OR ARTIFICIAL
S13     36703   BIOCOMPATIBLE
S14        93   S1:S7 NOT S8
S15     14278   S11(S)S12
S16         1   S14 AND S15
S17        92   S14 NOT S16
S18         2   S17 AND S13

 10/7/1     (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006  Thomson Derwent. All rts. reserv.
014018237
WPI Acc No: 2001-502451/200155
  Prosthetic device for inserting into joint cavity of vertebrate of human,
  comprises biocompatible material containing first polymeric component
  with chain length longer than second polymeric component
Patent Assignee: CARTIFICIAL APS (CART-N); CARTIFICIAL AS (CART-N);
  BECHGAARD K (BECH-I); JAKOBSEN L D (JAKO-I); LAURITZEN J B (LAUR-I);
  OLSEN O I (OLSE-I); PEDERSEN W B (PEDE-I); STEENSTRUP F R (STEE-I); VRAA
  E (VRAA-I)
Inventor:  BECHGAARD K ;  JAKOBSEN L D ;  LAURITZEN J B ;  OLSEN O I ;
  PEDERSEN W B ;  STEENSTRUP F R ;  VRAA E
Number of Countries: 095  Number of Patents: 015
Patent Family:
Patent No      Kind   Date     Applicat No     Kind   Date      Week
WO 200145595   A2  20010628  WO 2000DK697     A   20001214  200155  B
AU 200119964   A   20010703  AU 200119964     A   20001214  200164
BR 200016474   A   20020820  BR 200016474     A   20001214  200263
                             WO 2000DK697     A   20001214
NO 200202905   A   20020812  WO 2000DK697     A   20001214  200265
                             NO 20022905      A   20020617
EP 1242008     A2  20020925  EP 2000983081    A   20001214  200271
                             WO 2000DK697     A   20001214
KR 2002070994  A   20020911  KR 2002707787    A   20020617  200311
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CZ 200201966    A3   20030312  WO 2000DK697     A   20001214  200324
                               CZ 20021966      A   20001214
SK 200200823    A3   20030502  WO 2000DK697     A   20001214  200333
                               SK 2002823       A   20001214
US 20030093152  A1   20030515  WO 2000DK697     A   20001214  200335
                               US 2002926756    A   20020503
JP 2003517875   W    20030603  WO 2000DK697     A   20001214  200346
                               JP 2001546337    A   20001214
CN 1433289      A    20030730  CN 2000818689    A   20001214  200365
ZA 200204778    A    20031126  ZA 20024778      A   20020613  200402
NZ 520073       A    20040227  NZ 520073        A   20001214  200418
                               WO 2000DK697     A   20001214
MX 2002005863   A1   20031201  WO 2000DK697     A   20001214  200470
                               MX 20025863      A   20020613
AU 779400       B2   20050120  AU 200119964     A   20001214  200512
Priority Applications (No Type Date): DK 991811 A 19991217
Patent Details:
Patent No  Kind Lan Pg   Main IPC     Filing Notes
WO 200145595  A2 E  61 A61F-002/30
   Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
   CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP
   KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT
   RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
   Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
   IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
AU 200119964  A         A61F-002/30   Based on patent WO 200145595
BR 200016474  A         A61F-002/30   Based on patent WO 200145595
NO 200202905  A         A61F-002/30
EP 1242008    A2 E      A61F-002/30   Based on patent WO 200145595
   Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
   LI LT LU LV MC MK NL PT RO SE SI TR
KR 2002070994 A         A61L-027/26
CZ 200201966  A3        A61F-002/30   Based on patent WO 200145595
SK 200200823  A3        A61F-002/30   Based on patent WO 200145595
US 20030093152 A1        A61F-002/44
JP 2003517875 W      70 A61F-002/30   Based on patent WO 200145595
CN 1433289    A         A61F-002/30
ZA 200204778  A      87 A61F-000/00
NZ 520073     A         A61F-002/30   Based on patent WO 200145595
MX 2002005863 A1        A61F-002/30   Based on patent WO 200145595
AU 779400     B2        A61F-002/30   Previous Publ. patent AU 200119964
                                      Based on patent WO 200145595
```

Abstract (Basic): WO 200145595 A2

NOVELTY - A **prosthetic** device for inserting into **joint cavity** of vertebrate of human, comprises **biocompatible** material containing **polymeric** components (PC) (I,II). The **chain length** of **polymer** component (I) is **longer** than **chain length** of **polymeric** component (II).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(i) a method for introducing a **prosthetic** device into a **joint**, which involves locking device to intra-articular component for fixing or retaining device in **cavity** which is non-invasive to cartilage and bone present in **cavity**;

(ii) an instrument for inserting a **prosthetic** device comprising means for deforming **prosthetic** device into a reduced volume or a slender shape and means for grasping intra-articular component to which

the device is capable of interlocking;

(iii) a method for establishing slidability and/or pressure distribution in a **joint** of a vertebrate such as a human, comprising inserting into **cavity** of **joint** the **prosthetic** device, which is capable of locking itself to an intra-articular component and fixing or retaining in **cavity** which is non-invasive to cartilage and bone present in the **cavity**; and

(iv) a kit comprising:

(a) an intra-articular **prosthetic** device comprising (a.1) a **spacer** function and/or capability to exert pressure distribution and/or sliding movement of **joint** by internal movement of device by a resilient member and (a.2) a locking mechanism for fixing device to an intra-articular component by an element of device surrounding the component in such a way that the displacement of device is limited by inter-locking with the component; and

(b) an instrument for inserting the **prosthetic** device into a **joint cavity**.

USE - For establishing slidability and/or distributing pressure in a **joint** of a vertebrate (claimed), for alleviating and/or preventing conditions related to damaged **joints**, such as improving movements. Also for healing sick bone's structures and/or cartilage structures.

ADVANTAGE - The device is capable of locking itself to an intra-articular component such as ligament. Hence fixed or retained in **joint cavity** in a manner which is non-invasive to cartilage and bone natively present in the **joint cavity** and displacement of element is limited (claimed). The device permits the ligament to extend through the element exerting its natural function on the **joint**. The grooves are oriented in circulatory structure which prevents mating surface from gliding or sliding apart from each other. Further the structure comprises elements which reduces undesired movement in both of the directions, when the device is deformed during loading of the **joint**. The material present in the device is **biocompatible**, such as hemocompatible, thermoresistant, non-toxic and/or non-carcinogenic and has surface tension suitable for interaction between material and biological surfaces. Further the material is resistant to tear and wear, has good compressibility, surface flexibility and surface property which allows wetting with biological fluids and/or allows growth of chondritic cells. The material contact in biological surface is smooth and self-lubricating property. The material has excellent mechanical, chemical and physical stability, optimized tribiological properties, resistant to elevated temperature (sterilization), has affinity to the surrounding biological components and has dynamic characteristics suitable for stress distribution.

pp; 61 DwgNo 0/36

Derwent Class: A96; D22; P31; P32; P34

International Patent Class (Main): A61F-000/00; A61F-002/30; A61F-002/44; A61L-027/26

International Patent Class (Additional): A61B-017/56; A61F-002/28; A61L-027/00

16/3,AB,IC/1 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

01110897

MEDICAL DEVICE COMPRISING A BIO-COMPATIBLE POLYMERIC PRODUCT WITH A LAYERED

STRUCTURE
DISPOSITIF MEDICAL COMPRENANT UN PRODUIT POLYMERE BIOCOMPATIBLE DOTE D'UNE STRUCTURE EN COUCHES

Patent Applicant/Assignee:
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Legal Representative:
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Patent and Priority Information (Country, Number, Date):
Patent: WO 200432987 A1 20040422 (WO 0432987)
Application: WO 2003DK686 20031010 (PCT/WO DK03000686)
Priority Application: DK 20021567 20021011
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: A61L-027/44
International Patent Class: A61L-027/14; A61F-002/02; B32B-027/32
Publication Language: English
Filing Language: English
Fulltext Word Count: 20084
English Abstract
Disclosed is a method and a medical device comprising a bio-compatible **polymeric** product with a layered structure comprising at least one upper layer of a first **polymeric** component, a middle layer of a second **polymeric** component, and at least one lower layer of a third **polymeric** component, wherein the **chain length** of the first **polymeric** component and the third **polymeric** component is **longer** than the **chain length** of the second **polymeric** component. The medical device combines the features of strength, durability and bio-compatibility as well as it has resistance to tear and wear and has a good compressibility. A preferred design of the medical device is a cup produced from a core or film of LDPE surrounded by two layers of UHMWPE fabric. The medical device can be used

as **implants** in mammals, especially as **artificial** cartilage within **joints** to secure mobility of the **joint** .

18/3,AB,IC/1 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01048191
LOW POLYDISPERSITY POLY-HEMA COMPOSITIONS
COMPOSITIONS DE POLY-HEMA DE FAIBLE POLYDISPERSITE
Patent Applicant/Assignee:
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Inventor(s):
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WOLFF Per, Bakkevej 15A, DK-3460 Birkerod, DK,
SORENSEN Jens-Erik, Judithsvej 6, DK-2900 Hellerup, DK,
STEENSTRUP Frederik Resen , Ehlersvej 2D, 3.tv, DK-2900 Hellerup, DK,
ROSSIGNOL Helene, Frederiksberg Alle 7, 4.tv., DK-1621 Copenhagen V, DK,
MOLOCK Frank F, 1543 Wildfern Drive, Orange Park, FL 32203, US
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WOLFF Per, Bakkevej 15A, DK-3460 Birkerod, DK, -- (Residence), -- (Nationality), (Designated only for: US)
SORENSEN Jens-Erik, Judithsvej 6, DK-2900 Hellerup, DK, -- (Residence), -- (Nationality), (Designated only for: US)
STEENSTRUP Frederik Resen , Ehlersvej 2D, 3.tv, DK-2900 Hellerup, DK, -- (Residence), -- (Nationality), (Designated only for: US)
ROSSIGNOL Helene, Frederiksberg Alle 7, 4.tv., DK-1621 Copenhagen V, DK, -- (Residence), -- (Nationality), (Designated only for: US)
MOLOCK Frank F, 1543 Wildfern Drive, Orange Park, FL 32203, US, -- (Residence), -- (Nationality), (Designated only for: US
Legal Representative:
JOHNSON Philip S (et al) (agent), Johnson & Johnson, One Johnson & Johnson Plaza, New Brunswick, NJ 02933-7003, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200377792 A2-A3 20030925 (WO 0377792)
Application: WO 2003US6835 20030306 (PCT/WO US03006835)
Priority Application: US 2002363639 20020311; US 2003367253 20030214
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG
SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE
SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: C08F-118/00
Publication Language: English
Filing Language: English
Fulltext Word Count: 16953

English Abstract

The present invention relates to compositions comprising poly-HEMA having a peak molecular weight between about 25,000 and about 100,000, preferably between 25,000 and 80,000 and a polydispersity of less than about 2 to less than about 3.8 respectively and covalently bonded thereon, at least one **cross-link**able functional group. The present invention further relates to low polydispersity poly-HEMA suitable for making the **crosslink**able pre**polymers**, processes for functionalizing and purifying said poly-HEMA to form said **crosslink**able pre**polymers**, viscous solutions made from said **crosslink**able pre**polymers**, hydrogels made from said viscous solutions and articles made from said **crosslink**able **polymers**, hydrogels and viscous solutions.

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File 155:MEDLINE(R) 1951-2005/Dec 16
         (c) format only 2006 Dialog
File  73:EMBASE 1974-2006/Jan 23
         (c) 2006 Elsevier Science B.V.
File  34:SciSearch(R) Cited Ref Sci 1990-2006/Jan W2
         (c) 2006 Inst for Sci Info
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File 399:CA SEARCH(R) 1967-2005/UD=14403
         (c) 2006 American Chemical Society
Set     Items   Description
S1      12476   AU=(WHITE A? OR WHITE, A?)
S2        491   AU=(PEDERSEN W? OR PEDERSEN, W?)
S3          5   AU=(STEENSTRUP F? OR STEENSTRUP, F?)
S4       1274   AU=(OLSEN O? OR OLSEN, O?)
S5         93   AU=(JAKOBSEN L? OR JAKOBSEN, L?)
S6          5   AU=(VRAA E? OR VRAA, E?)
S7        256   AU=(LAURITZEN J? OR LAURITZEN, J?)
S8        771   AU=(BECHGAARD K? OR BECHGAARD, K?)
S9     516095   JOINT? ?
S10    860877   PROSTHES?S OR PROSTHETIC? ? OR IMPLANT? ? OR ARTIFICIAL
S11         1   S2 AND S3 AND S4 AND S5 AND S6 AND S7 AND S8 [a duplicate]
S12      2887   S2:S8 NOT S11
S13         1   S9(S)S10 AND S12 [a duplicate]
S14    134411   POLYMER??(S)CHAIN? ?
S15      2886   S12 NOT S13
S16        17   S14 AND S15
S17        14   RD  (unique items)
S18        14   Sort S17/ALL/PY,A

 18/6/3     (Item 3 from file: 399)
DIALOG(R)File 399:(c) 2006 American Chemical Society. All rts. reserv.
  Exact calculation of the partition function for a model of
two-dimensional polymer crystallization by chain folding

 18/6/4     (Item 4 from file: 399)
DIALOG(R)File 399:(c) 2006 American Chemical Society. All rts. reserv.
  Exact calculation of the partition function for a generalized model of
two-dimensional polymer crystallization by chain folding

 18/6/5     (Item 5 from file: 399)
DIALOG(R)File 399:(c) 2006 American Chemical Society. All rts. reserv.
  Extension of theory of growth of chain-folded polymer crystals to large
undercoolings

 18/6/6     (Item 6 from file: 399)
DIALOG(R)File 399:(c) 2006 American Chemical Society. All rts. reserv.
  The rate of crystallization of linear polymers with chain folding

 18/6/7     (Item 7 from file: 399)
DIALOG(R)File 399:(c) 2006 American Chemical Society. All rts. reserv.
  The configurational statistics of a polymer confined to a wedge of
interior angle .alpha.

 18/6/8     (Item 8 from file: 434)
02907138   Genuine Article#: HX789   Number of References: 9
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                E POLYACRYLATE/CN
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                E POLYURETHANE/CN
                E POLYSTYRENE/CN
L2              1 S E3
                E POLYETHER/CN
                E POLYVINYLALCOHOL/CN
L3              7 S E5 OR E6 OR E7 OR E8 OR E9 OR E10 OR E11
                E POLYETHYLENE/CN
L4              1 S E3
                E POLYPROPYLENE/CN
L5              1 S E3
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                E POLYETHYLENE OXIDE/CN
                E POLYVINYLPYRROLIDONE/CN
L6              1 S E3
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L8            663 S ARTIFICIAL JOINT#
L9         248145 S POLYACRYLATE? OR POLYSTYRENE OR POLYETHER?
L10         16152 S POLYVINYLALCOHOL OR POLYVINYL ALCOHOL
L11        336166 S POLYETHYLENE
L12        158967 S POLYPROPYLENE
L13         12065 S POLYETHYLENEOXIDE? OR POLYETHYLENE OXIDE?
L14         15566 S POLYVINYLPYRROLIDONE OR POLYVINYL PYRROLIDONE
L15        287828 S CROSSLINK? OR CROSS LINK?
L16           383 S CARBON BACKBONE#
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L18          1014 S (L7 OR L8) AND (L9 OR L10 OR L11 OR L12 OR L17)
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L20             0 S L18 AND L19
L21           138 S L18 AND L15
L22            18 S L18 AND (L13 OR L14)
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L24          3176 S L18
L25             9 S L15 AND L16
L26             0 S L24 AND L25
L27             3 S L24 AND (L13 OR L14)
L28          3176 S (L7 OR L8) AND (L9 OR L10 OR L11 OR L12 OR L23)


L22  ANSWER 1 OF 18  HCAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         2005:696705  HCAPLUS
DOCUMENT NUMBER:          143:179619
TITLE:                    Drug delivery to a  ***joint***  comprising a
                          polymeric or non-polymeric carrier
INVENTOR(S):              Hotchkiss, Robert N.; Koski, John A.
PATENT ASSIGNEE(S):       Orthobiologica, Inc., USA
SOURCE:                   PCT Int. Appl., 60 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
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PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005070333	A1	20050804	WO 2005-US999	20050113

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2005152949	A1	20050714	US 2005-35375	20050113
PRIORITY APPLN. INFO.:			US 2004-536135P	P 20040113
			US 2004-566737P	P 20040429

AB A method of intra-articular drug delivery may include selecting an attachment zone in a synovial ***joint*** and affixing a drug release device in the attachment zone. The drug release device comprises a base affixable in the attachment zone, a sustained-release drug carrier, and a drug. The device is positioned so that it releases the drug into the synovial fluid of the synovial ***joint*** , and so that agitation of the synovial fluid facilitates elution of the drug from the drug release device. For example, a sustained-release device included a polymeric matrix or liposome from which drug was released by diffusion and/or degrdn. of the matrix. The release pattern is usually principally detd. by the matrix material, as well as by the percent loading, method of manuf., type of drug being administered and type of device, for example, microsphere. A major advantage of a biodegradable controlled release system over others was that it did not require the surgical removal of the drug depleted device, which was slowly degraded and absorbed by the patient's body, and ultimately cleared along with other sol. metabolic waste products. Sustained-release compns. include poly(glycolic acid), poly(lactic acid), polyester, collagen, a hydrogel, and hyaluronic acid. Exemplary therapeutic agents include bupivacaine, lidocaine, dexamethasone, a nonsteroidal antiinflammatory agent, an antibiotic, an immunomodulator, a bone morphogenic protein, a cytokine, a growth factor, and a vascular endothelial growth factor.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT ***Joint*** , anatomical
(arthroplasty; articular sustained-release drug delivery to synovial ***joint***)

IT Anesthetics
Antibiotics
Hydrogels
Immunomodulators
(articular sustained-release drug delivery to synovial ***joint***)

IT Bone morphogenetic proteins
Collagens, biological studies
Cytokines
Growth factors, animal
Polyamides, biological studies
Polyanhydrides

Polycarbonates, biological studies
Polyesters, biological studies
Polysaccharides, biological studies
Polysiloxanes, biological studies
Shellac
Waxes
Zeins
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(articular sustained-release drug delivery to synovial ***joint***)

IT Cartilage
(articular; articular sustained-release drug delivery to synovial ***joint***)

IT Polyesters, biological studies
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(caprolactone-based; articular sustained-release drug delivery to synovial ***joint***)

IT Synovial fluid
(drug release in; articular sustained-release drug delivery to synovial ***joint***)

IT Polyesters, biological studies
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hydroxycarboxylic acid-based; articular sustained-release drug delivery to synovial ***joint***)

IT Drug delivery systems
(implants, controlled-release; articular sustained-release drug delivery to synovial ***joint***)

IT Drug delivery systems
(implants, sustained-release; articular sustained-release drug delivery to synovial ***joint***)

IT ***Prosthetic*** materials and ***Prosthetics***
(implants; articular sustained-release drug delivery to synovial ***joint***)

IT Polyesters, biological studies
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(lactic acid-based; articular sustained-release drug delivery to synovial ***joint***)

IT Oils
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(natural; articular sustained-release drug delivery to synovial ***joint***)

IT Anti-inflammatory agents
(nonsteroidal; articular sustained-release drug delivery to synovial ***joint***)

IT ***Joint*** , anatomical
(synovial; articular sustained-release drug delivery to synovial ***joint***)

IT 50-02-2, Dexamethasone 79-10-7D, Acrylic acid, derivs., polymers 107-92-6D, Butyric acid, derivs., polymers 109-52-4D, Valeric acid, derivs., polymers 137-58-6, Lidocaine 1403-66-3, Gentamycin ***9003-07-0*** , ***Polypropylene*** ***9003-39-8*** , ***Polyvinylpyrrolidone*** 9004-34-6D, Cellulose, derivs. 9004-61-9, Hyaluronic acid 9005-35-0, Calcium alginate 9016-00-6,

Polydimethylsiloxane 24980-41-4, Polycaprolactone 25248-42-4, Polycaprolactone 26009-03-0, Poly(glycolic acid) 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26100-51-6, Poly(lactic acid) 26124-68-5, Poly(glycolic acid) 31900-57-9, Polydimethylsiloxane 34346-01-5, Glycolic acid-lactic acid copolymer 37371-09-8, ***Polyvinyl*** ***alcohol*** phthalate 38396-39-3, Bupivacaine 127464-60-2, Vascular endothelial growth factor
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(articular sustained-release drug delivery to synovial ***joint***)

L22 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:672684 HCAPLUS
DOCUMENT NUMBER: 143:137590
TITLE: Production of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration
INVENTOR(S): Rothbrust, Frank; Van T'hoen, Christian; Holand, Wolfram; Rheinberger, Volker
PATENT ASSIGNEE(S): Ivoclar Vivadent A.-G., Germany
SOURCE: U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005164045	A1	20050728	US 2004-823278	20040413
EP 1559697	A2	20050803	EP 2004-30196	20041220
EP 1559697	A3	20050810		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
WO 2005070322	A1	20050804	WO 2005-EP50444	20050127
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: DE 2004-102004004059A 20040127

AB An oxide ceramic shaped part is manufd. by pressing a powder contg. a ceramic-contg. binder or a powder mixt. of an oxide ceramic into a shaped part, pre-sintering the shaped part at 600-1300.degree. under atm. pressure before evacuating the closed container in which the pre-sintered shaped part is disposed to less than 40 mbar pressure, the shaped part having a max. d. of 10-90%. Subsequently, an infiltration material is applied onto the shaped part via infiltration for 1-10 min to seal off the shaped part relative to the surrounding atm.

TI Production of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration

IT Titanates
Zirconates
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(alkoxides, precursor; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Silanes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(alkoxy, precursor; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT ***Prosthetic*** materials and ***Prosthetics***
(alloys, implants, ceramics for; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Metal alkoxides
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(aluminum, precursor; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT ***Joint*** , anatomical
(artificial, ceramics for; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Polyvinyl butyrals
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(binder; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Dental materials and appliances
(bridges, ceramics for; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Dental materials and appliances
(ceramics, crowns, ceramics for; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Dental materials and appliances
(ceramics, implants, ceramics for; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Oxides (inorganic), processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(ceramics; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Silanes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical

process); PROC (Process)
(hydrolyzable precursor; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Dental materials and appliances
(inlays, ceramics for; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Dental materials and appliances
(onlays, ceramics for; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Ceramics
(oxides; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Vinyl compounds, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(polymers, binder; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Heat treatment
(presintering; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Molding
(press; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Etching
Impregnation
Sintering
(prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Metal alkoxides
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(titanium, precursor; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT Metal alkoxides
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(zirconium, precursor; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT ***9002-88-4*** , ***Polyethylene*** 9003-20-7, Polyvinyl acetate ***9003-39-8*** , ***Polyvinylpyrrolidone*** 9004-34-6, Cellulose, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(binder; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT 1314-23-4, Zirconia, processes 1344-28-1, Aluminum oxide (Al2O3),

processes 13463-67-7, Titania, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(ceramics; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

IT 1306-38-3, Ceria, uses 1314-36-9, Yttria, uses 12060-08-1, Scandia 12061-16-4, Erbia
RL: MOA (Modifier or additive use); USES (Uses)
(zirconia stabilized by; prodn. of oxide ceramic shaped articles for dental implants, ***artificial*** ***joints*** and ***prosthetics*** by pre-sintering and vacuum infiltration)

L22 ANSWER 5 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:216608 HCAPLUS
DOCUMENT NUMBER: 142:285326
TITLE: Echogenic coatings of a biomedical device with overcoat comprising pharmaceutical agents and methods for preparation
INVENTOR(S): Violante, Michael R.; Whitbourne, Richard J.; Lanzafame, John F.; Lydon, Margaret
PATENT ASSIGNEE(S): Angiotech Biocoatings Corp., USA
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005020905	A2	20050310	WO 2004-US27458	20040825

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-647119 A 20030825

AB The present invention relates to an ultrasonically visible solid device for inserting into a non-gas target medium comprising an echogenic surface having structures entrapping gas causing the device to be ultrasonically visible, wherein the gas-entrapping structures are formed from open structures covered with a flexible overcoat that does not significantly reduce the compressibility of the gas trapped in the structures. The overcoat improves one or more properties of the device selected from echogenic coating durability, lubricity, surface smoothness, protection of the echogenic layer from deleterious effects of exposure to body fluids. The structures are selected from the group consisting of pores, channels, cavities, pockets, and combinations thereof, covered by the overcoat. The overcoat of the device incorporates one or more pharmaceutical agents.

IT Penis
(***prosthesis*** ; echogenic coatings of biomedical device with overcoat comprising pharmaceutical agents and methods for prepn.)
IT ***Joint*** , anatomical
(replacement; echogenic coatings of biomedical device with overcoat comprising pharmaceutical agents and methods for prepn.)
IT 67-68-5, Dimethylsulfoxide, uses 71-55-6, 1,1,1-Trichloroethane 75-09-2, Dichloromethane, uses 78-93-3, 2-Butanone, uses 106-99-0, Butadiene, uses 108-88-3, Toluene, uses 108-94-1, Cyclohexanone, uses 109-99-9, Tetrahydrofuran, uses 110-54-3, Hexane, uses 123-86-4, n-Butyl acetate 141-78-6, Ethyl acetate, uses 872-50-4, n-Methylpyrrolidone, uses 1330-20-7, Xylene, uses 9002-84-0, Polytetrafluoroethylene 9002-85-1, Poly(vinylidenechloride) ***9002-88-4*** , ***Polyethylene*** ***9003-39-8*** , ***Polyvinylpyrrolidone*** 9003-55-8, Butadiene-styrene copolymer 9016-00-6, Polydimethylsiloxane 24937-78-8, Ethylene/Vinyl acetate copolymer 31900-57-9, Polydimethylsiloxane 106107-54-4, Butadiene-styrene block polymer
RL: DEV (Device component use); USES (Uses)
(echogenic coatings of biomedical device with overcoat comprising pharmaceutical agents and methods for prepn.)

L22 ANSWER 6 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:182523 HCAPLUS
DOCUMENT NUMBER: 142:266874
TITLE: Synergistic antimicrobial compositions and methods of inhibiting biofilm formation
INVENTOR(S): Madhyastha, Srinivasa
PATENT ASSIGNEE(S): Kane Biotech Inc., Can.
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2005018701	A1	20050303	WO 2004-CA1477		20040806
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
CA 2452032	AA	20040430	CA 2003-2452032		20031204
US 2005049181	A1	20050303	US 2004-781464		20040217
PRIORITY APPLN. INFO.:			US 2003-497337P	P	20030825
			CA 2003-2452032	A	20031204
			US 2004-781464	A	20040217

AB A synergistic antimicrobial compn. for inhibiting biofilm formation includes an iron-sequestering glycoprotein, a cationic polypeptide and a

chelating agent, or an iron-sequestering glycoprotein and a chelating agent, or an iron-sequestering glycoprotein and a cationic polypeptide. Addnl., surfactants and quaternary ammonium compds. may also be advantageously combined with iron-sequestering glycoproteins in an antimicrobial compn. Methods of using a synergistic compn. for inhibiting medical device biofilm formation are also disclosed. Antibacterial effects of ovotransferrin, protamine sulfate, and EDTA alone and in combinations on biofilm formation in catheter-assocd. bacteria such as Escherichia, Proteus, Pseudoinonas, Klebsiella, Enterococcus, and Staphylococcus are shown.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT ***Joint*** , anatomical
(artificial; synergistic antimicrobial compns. and methods of inhibiting biofilm formation)

IT Antibiotics
Biofilms (microbial)
Chelating agents
Contact lenses
Enterococcus faecalis
Escherichia coli
Gram-negative bacteria
Hydrogels
Klebsiella oxytoca
Klebsiella pneumoniae
Medical goods
Prosthetic materials and ***Prosthetics***
Proteus mirabilis
Providencia stuartii
Pseudomonas aeruginosa
Serratia marcescens
Staphylococcus aureus
Staphylococcus epidermidis
Staphylococcus saprophyticus
Surfactants
(synergistic antimicrobial compns. and methods of inhibiting biofilm formation)

IT Heart
(valve, ***prosthetic*** ; synergistic antimicrobial compns. and methods of inhibiting biofilm formation)

IT 60-00-4, EDTA, biological studies 67-42-5, EGTA 67-43-6, DTPA 93-62-9, HEIDA 139-13-9, NTA 142-73-4, IDA 150-39-0, HEDTA 1170-02-1, EDDHA ***9002-88-4*** , ***Polyethylene*** 9002-89-5, ***Polyvinyl*** ***alcohol*** ***9003-39-8*** , ***Polyvinylpyrrolidone*** 13291-61-7, CDTA
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(synergistic antimicrobial compns. and methods of inhibiting biofilm formation)

L22 ANSWER 7 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:119884 HCAPLUS
DOCUMENT NUMBER: 142:204864
TITLE: Medical implants coated with porous carbon surfaces carrying drugs
INVENTOR(S): Rathenow, Joerg; Asgari, Soheil; Ban, Andreas
PATENT ASSIGNEE(S): Blue Membranes GmbH, Germany

SOURCE: Ger. Offen., 15 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10333099	A1	20050210	DE 2003-10333099	20030721
DE 202004009061	U1	20040916	DE 2004-202004009061	20040528
CA 2519750	AA	20041209	CA 2004-2519750	20040528
WO 2004105826	A2	20041209	WO 2004-EP5785	20040528
WO 2004105826	A3	20050623		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005079201	A1	20050414	US 2004-939021	20040910

PRIORITY APPLN. INFO.:

DE 2003-10324415	A1	20030528
DE 2003-10333098	A1	20030721
DE 2003-10333099	A1	20030721
WO 2004-EP5785	W	20040528

AB The invention concerns a method for the prepn. of medical implants with functionalized surfaces involving the steps: (a)prepn. of medical implant that is at least partially coated with a carbon-contg. layer; (b) activation of the carbon-contg. layer by forming a pores on the surface; (c) functionalization of the activated, carbon-contg. surface. The carbon-contg. layer is composed of pyrolytically prepd. carbon, carbon deposited by CVD or PVD process, sputtered carbon, metal carbides, metal carbonitrides, metal oxynitrides, metal oxycarbides or their combinations. The carbon-contg. layers are activated by oxidn. with air, oxygen, dinitrogen oxide, and oxidizing acids, also at elevated temp. A redn. process can also be used for activation. Activated surfaces are functionalized by loading one or more drugs, microorganisms or cells onto the surface. Activated surfaces can be sealed in a CVD or CVI (chem. vapor infiltration) process. The implants are prepd. from carbon, carbon fibers, ceramics, glass, metals, alloys, artificial bone, stone, minerals. Artificial blood vessels, stents, coronary stents, peripheral stents, orthopedic implants, bone and ***joint*** ***prosthesis*** , artificial heart, heart valves, s.c., and i.m. implants can be activated and functionalized.
AB The invention concerns a method for the prepn. of medical implants with functionalized surfaces involving the steps: (a)prepn. of medical implant that is at least partially coated with a carbon-contg. layer; (b) activation of the carbon-contg. layer by forming a pores on the surface; (c) functionalization of the activated, carbon-contg. surface. The carbon-contg. layer is composed of pyrolytically prepd. carbon, carbon deposited by CVD or PVD process, sputtered carbon, metal carbides, metal carbonitrides, metal oxynitrides, metal oxycarbides or their combinations. The carbon-contg. layers are activated by oxidn. with air, oxygen,

dinitrogen oxide, and oxidizing acids, also at elevated temp. A redn. process can also be used for activation. Activated surfaces are functionalized by loading one or more drugs, microorganisms or cells onto the surface. Activated surfaces can be sealed in a CVD or CVI (chem. vapor infiltration) process. The implants are prepd. from carbon, carbon fibers, ceramics, glass, metals, alloys, artificial bone, stone, minerals. Artificial blood vessels, stents, coronary stents, peripheral stents, orthopedic implants, bone and ***joint*** ***prosthesis*** , artificial heart, heart valves, s.c., and i.m. implants can be activated and functionalized.

ST medical implant ***prosthesis*** stent carbon porous carbon surface drug

IT ***Prosthetic*** materials and ***Prosthetics***
(alloys, implants; medical implants coated with porous carbon surfaces carrying drugs)

IT Bone
Joint , anatomical
(artificial; medical implants coated with porous carbon surfaces carrying drugs)

IT ***Prosthetic*** materials and ***Prosthetics***
(cardiovascular implants; medical implants coated with porous carbon surfaces carrying drugs)

IT ***Prosthetic*** materials and ***Prosthetics***
(ceramic, implants; medical implants coated with porous carbon surfaces carrying drugs)

IT ***Prosthetic*** materials and ***Prosthetics***
(glass ceramics; medical implants coated with porous carbon surfaces carrying drugs)

IT Drug delivery systems
Prosthetic materials and ***Prosthetics***
(implants; medical implants coated with porous carbon surfaces carrying drugs)

IT ***Polyethers*** , biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ortho ester group-contg.; medical implants coated with porous carbon surfaces carrying drugs)

IT ***Prosthetic*** materials and ***Prosthetics***
(orthopedic; medical implants coated with porous carbon surfaces carrying drugs)

IT Polyurethanes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(***polyether*** -; medical implants coated with porous carbon surfaces carrying drugs)

IT ***Prosthetic*** materials and ***Prosthetics***
(polymers; medical implants coated with porous carbon surfaces carrying drugs)

IT Ceramics
(***prosthetic*** implants; medical implants coated with porous carbon surfaces carrying drugs)

IT Glass ceramics
(***prosthetic*** ; medical implants coated with porous carbon surfaces carrying drugs)

IT ...9002-71-5, Thyrotrophin ***9002-88-4*** , ***Polyethylene*** 9002-89-5, ***Polyvinylalcohol*** 9003-01-4, Acrylic acid homopolymer ***9003-07-0*** , ***Polypropylene*** ***9003-39-8*** , ***Polyvinylpyrrolidone*** 9004-32-4, Carboxymethylcellulose 9004-34-6, Cellulose, biological studies 9004-54-0, Dextran, biological...

...Polylysine 25122-41-2, Clobetasol 25190-06-1, Poly(Tetramethylene glycol) 25322-68-3, ***Polyethylene*** ***oxide*** 25322-69-4, ***Polypropylene*** oxide 25614-03-3, Bromocriptine 25953-19-9, Cefazolin 26009-03-0, Polyglycolic acid 26023-30-3,...
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medical implants coated with porous carbon surfaces carrying drugs)

L22 ANSWER 8 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:119883 HCAPLUS
DOCUMENT NUMBER: 142:204863
TITLE: Biocompatible coated medical implants with a carbon layer and method for preparation
INVENTOR(S): Rathenow, Joerg; Asgari, Soheil; Ban, Andreas
PATENT ASSIGNEE(S): Blue Membranes GmbH, Germany
SOURCE: Ger. Offen., 23 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10333098	A1	20050210	DE 2003-10333098	20030721
DE 202004009060	U1	20040916	DE 2004-202004009060	20040510
CA 2519742	AA	20041125	CA 2004-2519742	20040510
WO 2004101017	A2	20041125	WO 2004-EP4985	20040510
WO 2004101017	A3	20050303		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 202004009061	U1	20040916	DE 2004-202004009061	20040528
CA 2519750	AA	20041209	CA 2004-2519750	20040528
WO 2004105826	A2	20041209	WO 2004-EP5785	20040528
WO 2004105826	A3	20050623		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005079200	A1	20050414	US 2004-938995	20040910
US 2005079201	A1	20050414	US 2004-939021	20040910

PRIORITY APPLN. INFO.: DE 2003-10322182 A1 20030516

DE 2003-10324415	A1	20030528
DE 2003-10333098	A1	20030721
DE 2003-10333099	A1	20030721
WO 2004-EP4985	W	20040510
WO 2004-EP5785	W	20040528

AB The invention concerns a method for the prepn. of biocompatible coatings for implants, and medical goods composing the steps (a) coating the medical good at least partially with a polymer film using a coating process; (b) heating the polymer film in an oxygen-free atm. at 200-2500 .degree.C to obtain a carbon layer on the medical good. The medical goods are heat resistant; they are prepd. from carbon, carbon fibers, ceramics, glass, metals, alloys, artificial bone, stone, minerals; during heating they are transferred to their thermostable state. Artificial blood vessels, stents, coronary stents, peripheral stents, orthopedic implants, bone and ***joint*** ***prosthesis*** , artificial heart, heart valves, s.c., and i.m. implants can be coated. Other coating methods, e.g. dipping, spraying, printing can be applied. Several carbon layers with various porosity can be formed; biocompatible, biodegradable, non-biodegradable polymer layers can be placed on top of the carbon layers; drugs can be adsorbed onto the layers.

AB The invention concerns a method for the prepn. of biocompatible coatings for implants, and medical goods composing the steps (a) coating the medical good at least partially with a polymer film using a coating process; (b) heating the polymer film in an oxygen-free atm. at 200-2500 .degree.C to obtain a carbon layer on the medical good. The medical goods are heat resistant; they are prepd. from carbon, carbon fibers, ceramics, glass, metals, alloys, artificial bone, stone, minerals; during heating they are transferred to their thermostable state. Artificial blood vessels, stents, coronary stents, peripheral stents, orthopedic implants, bone and ***joint*** ***prosthesis*** , artificial heart, heart valves, s.c., and i.m. implants can be coated. Other coating methods, e.g. dipping, spraying, printing can be applied. Several carbon layers with various porosity can be formed; biocompatible, biodegradable, non-biodegradable polymer layers can be placed on top of the carbon layers; drugs can be adsorbed onto the layers.

ST medical implant ***prosthesis*** stent carbon polymer drug biocompatible coating

IT ***Prosthetic*** materials and ***Prosthetics***
(alloys, implants; biocompatible coated medical implants with a carbon layer and method for prepn.)

IT Bone
Joint , anatomical
(artificial; biocompatible coated medical implants with a carbon layer and method for prepn.)

IT ***Prosthetic*** materials and ***Prosthetics***
(cardiovascular implants; biocompatible coated medical implants with a carbon layer and method for prepn.)

IT ***Prosthetic*** materials and ***Prosthetics***
(ceramic, implants; biocompatible coated medical implants with a carbon layer and method for prepn.)

IT ***Prosthetic*** materials and ***Prosthetics***
(glass ceramics; biocompatible coated medical implants with a carbon layer and method for prepn.)

IT Drug delivery systems
Prosthetic materials and ***Prosthetics***
(implants; biocompatible coated medical implants with a carbon layer and method for prepn.)

IT ***Polyethers*** , biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ortho ester group-contg.; biocompatible coated medical implants with a carbon layer and method for prepn.)
IT ***Prosthetic*** materials and ***Prosthetics***
(orthopedic; biocompatible coated medical implants with a carbon layer and method for prepn.)
IT Polyurethanes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(***polyether*** -; biocompatible coated medical implants with a carbon layer and method for prepn.)
IT Ceramics
(***prosthetic*** implants; biocompatible coated medical implants with a carbon layer and method for prepn.)
IT Glass ceramics
(***prosthetic*** ; biocompatible coated medical implants with a carbon layer and method for prepn.)
IT ...9002-71-5, Thyrotrophin 9002-86-2, Polyvinylchloride ***9002-88-4*** , ***Polyethylene*** 9002-89-5, ***Polyvinylalcohol*** 9003-01-4, Acrylic acid homopolymer ***9003-07-0*** , ***Polypropylene*** 9003-08-1, Melamine resin 9003-17-2, Polybutadiene 9003-27-4, Polyisobutene 9003-28-5, Polybutene ***9003-39-8*** , ***Polyvinylpyrrolidone*** 9004-32-4, ... RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(biocompatible coated medical implants with a carbon layer and method for prepn.)

L22 ANSWER 9 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:756044 HCAPLUS
DOCUMENT NUMBER: 141:266048
TITLE: Medical implants with carbon-containing surfaces that are functionalized
PATENT ASSIGNEE(S): Blue Membranes GmbH, Germany
SOURCE: Ger. Gebrauchsmusterschrift, 18 pp.
CODEN: GGXXFR
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 202004009061	U1	20040916	DE 2004-202004009061	20040528
DE 10324415	A1	20041216	DE 2003-10324415	20030528
DE 10333098	A1	20050210	DE 2003-10333098	20030721
DE 10333099	A1	20050210	DE 2003-10333099	20030721
PRIORITY APPLN. INFO.:			DE 2003-10324415	A1 20030528
			DE 2003-10333098	A1 20030721
			DE 2003-10333099	A1 20030721

AB The invention concerns medical implants with carbon-contg. surfaces that are functionalized; the surfaces are prepd. by (a) prepg. a medical implant with a carbon-contg. surface; (b) activation of the carbon layer by creating porosity; (c) functionalization of the activated, carbon-contg. layer. The carbon layer can be prepd. by pyrolysis, CVD, PVD, sputtering, ion implantation. The medical devices are prepd. from carbon, carbon-composite material, glass, ceramics, glass fibers, carbon fibers, metals, stainless steel, titanium, tantalum, platinum, nitinol,

alloys, artificial bone, minerals, and their combinations. Artificial blood vessels, stents, coronary stents, peripheral stents, orthopedic implants, artificial hearts and heart valves, artificial bones and ***joints*** are prepd. The carbon layer is activated with oxidn. or reducing agents in the presence of air, oxygen, nitrogen monoxide, oxidative acids; heat and/or ultrasound can be applied. The activated implant surfaces are functionalized with drugs, microorganisms, plant, animal or human cells. The invention also concerns controlled-release implanted drug delivery systems.

AB The invention concerns medical implants with carbon-contg. surfaces that are functionalized; the surfaces are prepd. by (a) prepg. a medical implant with a carbon-contg. surface; (b) activation of the carbon layer by creating porosity; (c) functionalization of the activated, carbon-contg. layer. The carbon layer can be prepd. by pyrolysis, CVD, PVD, sputtering, ion implantation. The medical devices are prepd. from carbon, carbon-composite material, glass, ceramics, glass fibers, carbon fibers, metals, stainless steel, titanium, tantalum, platinum, nitinol, alloys, artificial bone, minerals, and their combinations. Artificial blood vessels, stents, coronary stents, peripheral stents, orthopedic implants, artificial hearts and heart valves, artificial bones and ***joints*** are prepd. The carbon layer is activated with oxidn. or reducing agents in the presence of air, oxygen, nitrogen monoxide, oxidative acids; heat and/or ultrasound can be applied. The activated implant surfaces are functionalized with drugs, microorganisms, plant, animal or human cells. The invention also concerns controlled-release implanted drug delivery systems.

IT ***Prosthetic*** materials and ***Prosthetics***
(alloys, implants; medical implants with carbon-contg. surfaces that are functionalized)

IT Blood vessel
Bone
Heart
Joint , anatomical
(artificial; medical implants with carbon-contg. surfaces that are functionalized)

IT ***Prosthetic*** materials and ***Prosthetics***
(cardiovascular implants; medical implants with carbon-contg. surfaces that are functionalized)

IT ***Prosthetic*** materials and ***Prosthetics***
(ceramic, implants; medical implants with carbon-contg. surfaces that are functionalized)

IT ***Prosthetic*** materials and ***Prosthetics***
(composites, implants; medical implants with carbon-contg. surfaces that are functionalized)

IT ***Prosthetic*** materials and ***Prosthetics***
(glass ceramics; medical implants with carbon-contg. surfaces that are functionalized)

IT Drug delivery systems
Prosthetic materials and ***Prosthetics***
(implants; medical implants with carbon-contg. surfaces that are functionalized)

IT ***Prosthetic*** materials and ***Prosthetics***
(orthopedic; medical implants with carbon-contg. surfaces that are functionalized)

IT Polyurethanes, biological studies
Polyurethanes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(***polyether*** -; medical implants with carbon-contg. surfaces that are functionalized)

IT Ceramics
(***prosthetic*** implants; medical implants with carbon-contg. surfaces that are functionalized)

IT Glass ceramics
(***prosthetic*** ; medical implants with carbon-contg. surfaces that are functionalized)

IT ...biological studies 9002-71-5, Thyrotrophin 9002-72-6, Growth hormone ***9002-88-4*** , ***Polyethylene*** 9002-89-5, ***Polyvinylalcohol*** ***9003-07-0*** , ***Polypropylene*** 9003-28-5, Polybutene ***9003-39-8*** , ***Polyvinylpyrrolidone*** 9004-34-6D, Cellulose, derivs. 9004-54-0, Dextran, biological studies... ...Diflunisal 23155-02-4, Fosfomycin 23214-92-8, Doxorubicin 24937-78-8, **Polyethylene**vinyl acetate 25014-41-9, 2-Propenenitrile, homopolymer 25038-59-9, **Polyethylene**terephthalate, biological studies 25122-41-2, Clobetasol 25190-06-1, Polytetramethylene glycol 25322-68-3, ***Polyethylene*** ***oxide*** 25322-69-4, ***Polypropylene*** oxide 25614-03-3, Bromocriptine 25953-19-9, Cefazolin 26009-03-0, Polyglycolide 26023-30-3, D,L-Lactic acid,...
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medical implants with carbon-contg. surfaces that are functionalized)

L22 ANSWER 11 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:419104 HCAPLUS
DOCUMENT NUMBER: 141:415860
TITLE: Polymer composites as components of biological systems and medicinal preparations
AUTHOR(S): Bobrysheva, S. N.; Kolenchenko, A. A.
CORPORATE SOURCE: Inst. Mekh. Metallopolim. Sint. im. V. A. Belogo, NANB, Gomel, 246050, Belarus
SOURCE: Materialy, Tekhnologii, Instrumenty (2003), 8(4), 50-53
CODEN: MTIAC3; ISSN: 1607-9922
PUBLISHER: Institut Mekhaniki Metallopolimernykh Sistem im. V. A. Belogo
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB The work gives an ultimate overview of application of polymers in medicinal prepns. for treatment of human ***joint*** diseases. Models of synovial lubricant for ***joints*** are presented which incorporate hydrophilic polymers (hydrogels), i.e., hyaluronic acid, ***polyethylene*** ***oxide*** , organosilane, sodium CM-cellulose, and ***polyvinylpyrrolidone*** . Their most compatible combinations with different drugs and functional components are considered to provide for a complex of physicochem., mech. and rheol. properties. Based on results of clin. and exptl. investigations it is shown that the models developed can be successfully used as a total replacement or for therapeutic correction of synovial lubricant.
AB The work gives an ultimate overview of application of polymers in medicinal prepns. for treatment of human ***joint*** diseases. Models of synovial lubricant for ***joints*** are presented which incorporate hydrophilic polymers (hydrogels), i.e., hyaluronic acid, ***polyethylene*** ***oxide*** , organosilane, sodium CM-cellulose, and ***polyvinylpyrrolidone*** . Their most compatible combinations with different drugs and functional components are considered to provide

for a complex of physicochem., mech. and rheol. properties. Based on results of clin. and exptl. investigations it is shown that the models developed can be successfully used as a total replacement or for therapeutic correction of synovial lubricant.

IT Disease, animal
(arthropathy; polymer hydrogels as replacement of synovial fluid for treatment of ***joint*** diseases)

IT ***Prosthetic*** materials and ***Prosthetics***
(composites; polymer hydrogels as replacement of synovial fluid for treatment of ***joint*** diseases)

IT ***Joint*** , anatomical
(disease; polymer hydrogels as replacement of synovial fluid for treatment of ***joint*** diseases)

IT Silanes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(organosilanes; polymer hydrogels as replacement of synovial fluid for treatment of ***joint*** diseases)

IT Hydrogels
Synovial fluid
(polymer hydrogels as replacement of synovial fluid for treatment of ***joint*** diseases)

IT Polymers, biological studies
Polyoxyalkylenes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymer hydrogels as replacement of synovial fluid for treatment of ***joint*** diseases)

IT ***9003-39-8*** , ***Polyvinylpyrrolidone*** 9004-32-4, Sodium carboxymethyl cellulose 9004-61-9, Hyaluronic acid 25322-68-3, ***Polyethylene*** ***oxide***
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymer hydrogels as replacement of synovial fluid for treatment of ***joint*** diseases)

L22 ANSWER 12 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:412562 HCAPLUS
DOCUMENT NUMBER: 140:412378
TITLE: Anti-adhesion compositions of polyacids and ***polyethers*** for reducing post-surgical pain
INVENTOR(S): Schwartz, Herbert E.; Blackmore, John M.; Cortese, Stephanie M.; Oppelt, William G.; DiZigera, Gere
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 86 pp., Cont.-in-part of U.S. Ser. No. 472,110.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004096422	A1	20040520	US 2003-666804	20030919
US 5906997	A	19990525	US 1997-877649	19970617
US 6034140	A	20000307	US 1998-23097	19980213
US 6869938	B1	20050322	US 1999-472110	19991227
WO 2005027852	A2	20050331	WO 2004-US30839	20040920
WO 2005027852	A3	20051027		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 1997-877649	A3	19970617
US 1998-23097	A2	19980213
US 1999-127571P	P	19990402
US 1999-472110	A2	19991227
US 2003-666804	A	20030919

AB The present invention relates to improved methods for reducing pain and organ dysfunction using bioadhesive, bioresorbable, anti-adhesion compns. made of intermacromol. complexes of carboxyl-contg. polysaccharides, ***polyethers*** , polyacids, polyalkylene oxides, multivalent cations and/or polycations. The polymers are assocd. with each other, and are then either dried into membranes or sponges, or are used as gels, fluids or microspheres. Compns. are useful in surgery to prevent the formation and reformation of post-surgical adhesions. The compns. are designed to breakdown in-vivo, and thus be removed from the body. Membranes are inserted during surgery either dry or optionally after conditioning in aq. solns. Anti-adhesion, bioadhesive, bioresorptive, antithrombogenic and phys. properties of such membranes and gels can be varied as needed by carefully adjusting the pH and/or cation content of the polymer casting solns., polyacid compn., the polyalkylene oxide compn., or by conditioning the membranes prior to surgical use. Membranes and gels can be used concurrently. Anti-adhesion compns. may also be used to lubricate tissues and/or medical instruments, and/or deliver drugs to the surgical site and release them locally. For example, an ionically **crosslinked** gel having 2% wt./vol. solids ratio and 95% CM-cellulose/5% ***polyethylene*** ***oxide*** was prepd. A dry, powd. mixt. contg. 9.5 g CMC and 0.5 g PEO was added to 500 mL water contg. 3.2 mL of a 25.2% wt./vol. soln. of FeCl2.6H2O and the soln. was stirred at high speed until homogeneous. The osmolality was then adjusted to a physiol. acceptable value of about 300 mmol/kg by adding about 13 mL of a 30% wt./vol. soln. of NaCl and further mixing the gel. The pH of the gel was adjusted to 7.0 by adding 1.7 N NH4OH. The gel was sterilized in an autoclave for 15 min at 250.degree.. Freeze drying of the gel provided iron-assocd. sponges.

ST polyacid ***polyether*** gel membrane microsphere surgery adhesion pain

IT Adhesion, biological
Analgesics
Anesthetics
Anti-inflammatory agents
Anticoagulants
Biocompatibility
Coating materials
Crosslinking
Drug delivery systems
Gamma ray sterilization
Hydration, chemical
Hydrogels

Hydrogen bond
Microspheres
Pain
Particle size
Particle size distribution
Plasticizers
Swelling, physical
(anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Chemotactic factors
Cytokines
Growth factors, animal
Hormones, animal, biological studies
Polyesters, biological studies
Polyethers , biological studies
Polyoxyalkylenes, biological studies
Polyphosphoric acids
Proteins
RGD peptides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Polysaccharides, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(carboxyl-contg.; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Medical goods
(films; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Tendon
(flexor, repair of; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT ***Prosthetic*** materials and ***Prosthetics***
(implants, coatings; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Polyesters, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(lactic acid-based; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Abdomen
Surgery
(laparoscopy; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Abdomen
Surgery
(laparotomy; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Films
(medical; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Medical goods
(membranes; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Cations
(multivalent; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Uterus, neoplasm

(myoma, myomectomy; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Anti-inflammatory agents
(nonsteroidal; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Growth factors, animal
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(osteogenins; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Buffers
(phosphate, membrane conditioning with; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Physiological saline solutions
(phosphate-buffered, membrane conditioning with; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Cations
(polyvalent; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT ***Joint*** , anatomical
(replacement surgery; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Body, anatomical
(sinus, surgery; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Medical goods
(sponges; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Abdomen
Ear
Eye
Nose
Spinal column
Thorax
(surgery; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Arthritis
(treatment of; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT Myoma
(uterine, myomectomy; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT 50-78-2, Aspirin 56-81-5, Glycerol, biological studies 1398-61-4, Chitin 7429-90-5, Aluminum, biological studies 7439-89-6, Iron, biological studies 7439-95-4, Magnesium, biological studies 7439-96-5, Manganese, biological studies 7440-47-3, Chromium, biological studies 7440-66-6, Zinc, biological studies 7440-70-2, Calcium, biological studies 7446-70-0, Aluminum chloride, biological studies 7758-94-3, Ferrous chloride 9000-69-5, Pectin 9004-32-4, Carboxymethyl cellulose sodium 9004-42-6, Carboxyethyl cellulose 9004-61-9, Hyaluronic acid 9005-32-7, Alginic acid 9005-37-2, Propylene glycol alginate 9005-49-6, Heparin, biological studies 9007-28-7, Chondroitin sulfate 9044-05-7, Carboxymethyldextran 10043-52-4, Calcium chloride, biological studies 15687-27-1, Ibuprofen 22071-15-4, Ketoprofen 25087-26-7, Polymethacrylic acid 25322-68-3, ***Polyethylene*** ***oxide*** 25322-69-4, ***Polypropylene*** oxide 26009-03-0, Polyglycolic acid 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26100-51-6, Polylactic acid 26124-68-5, Polyglycolic acid 26876-05-1,

Poly(terephthalic acid) 26913-45-1, Poly(oxycarbonyl-1,4-phenylenecarbonyl) 29894-36-8, Polymannuronic acid 36562-70-6, Polyguluronic acid 36655-86-4, Polyglucuronic acid 50851-57-5, **Polystyrene**sulfonic acid 52352-27-9, Poly(hydroxybutyric acid) 52519-63-8, Carboxymethyl chitin 83512-85-0, Carboxymethylchitosan 139639-23-9, Tissue plasminogen activator 690268-60-1, Oxiplex SP
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT 7778-77-0, Monobasic potassium phosphate
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(buffer, membrane conditioning with; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

IT 1336-21-6, Ammonium hydroxide
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(membrane conditioning with; anti-adhesion compns. of polyacids and ***polyethers*** for reducing post-surgical pain)

L22 ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:172401 HCAPLUS
DOCUMENT NUMBER: 136:221783
TITLE: Protein matrix materials, devices and methods of making and using thereof
INVENTOR(S): Masters, David B.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 69 pp., Cont.-in-part of U.S. Ser. No. 160,421.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2002028243	A1	20020307	US 2001-796170		20010228
US 6342250	B1	20020129	US 1998-160421		19980925
PRIORITY APPLN. INFO.:			US 1998-160421	A2	19980925
			US 2000-185420P	P	20000228
			US 2000-222762P	P	20000803
			US 1997-60048P	P	19970925

AB The present invention relates to protein matrix materials and devices and the methods of making and using protein matrix materials and devices. More specifically the present invention relates to protein matrix materials and devices that may be utilized for various medical applications including, but not limited to, drug delivery devices for the controlled release of pharmacol. active agents, encapsulated or coated stent devices, vessels, tubular grafts, vascular grafts, wound healing devices including protein matrix suture material and meshes, skin/bone/tissue grafts, biocompatible electricity conducting matrixes, clear protein matrixes, protein matrix adhesion prevention barriers, cell scaffolding and other biocompatible protein matrix devices. Furthermore, the present invention relates to protein matrix materials and devices made by forming a film comprising one or more biodegradable protein materials, one or more biocompatible solvents and optionally one or more pharmacol. active agents. The film is then partially dried, rolled or otherwise shaped, and then compressed to form the desired protein matrix device.

ST protein matrix ***prosthetic*** material implant drug delivery

IT UV radiation
(-activated reagents; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Reagents
RL: RCT (Reactant); RACT (Reactant or reagent)
(UV-activated; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Alcoholism
(agents for treatment of; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Bone
Joint , anatomical
(artificial; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Medical goods
(bandages; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Acids, uses
Alcohols, uses
Glycols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(biocompatible solvents; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Solvents
(biocompatible; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Medical goods
(catheters; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Medical goods
(dressings; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Medical goods
(endotracheal tubes; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Drug delivery systems
(films; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Pancreas
(implants for; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Drug delivery systems
(implants; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Tobacco smoke
(inhibitors; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Drug delivery systems
(injections; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Contraceptives
(intrauterine; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Drug delivery systems
(liposomes; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Transplant and Transplantation
(lung; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT Proteins
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(matrix; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT Medical goods
(meshes; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT Genetic engineering
(of proteins; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT ***Polyethers*** , biological studies
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ortho ester group-contg.; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT Drug delivery systems
(patches; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT Dental materials and appliances
(plugs; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT Polyamides, biological studies
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(poly(amino acids); protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT Amines, biological studies
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyamines, nonpolymeric, amido; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT Analgesics
Anesthetics
Anti-inflammatory agents
Antiasthmatics
Antibacterial agents
Anticoagulants
Anticonvulsants
Antidiabetic agents
Antiglaucoma agents
Antihistamines
Antiobesity agents
Antiparkinsonian agents
Antipsychotics
Antitumor agents
Antiviral agents
Contraceptives
Crosslinking agents
Drug delivery systems
Drugs
Drying
Fungicides
Ligament

Prosthetic materials and ***Prosthetics***
Silk
Tendon
Thrombolytics
Transplant and Transplantation
Wound healing promoters
(protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Fibrins
Fluoropolymers, biological studies
Polyamide fibers, biological studies
Polyamines
Polyanhydrides
Polycarbonates, biological studies
Polyesters, biological studies
Polyoxyalkylenes, biological studies
Polyphosphazenes
Polysiloxanes, biological studies
Polysulfones, biological studies
Polyurethanes, biological studies
Silicone rubber, biological studies
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Albumins, biological studies
Collagens, biological studies
Elastins
Fibrinogens
Fibroin
Fibronectins
Glycerides, biological studies
Keratins
Lipids, biological studies
Myosins
Phosphatidylcholines, biological studies
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Corticosteroids, biological studies
Enzymes, biological studies
Epoxides
Growth factors, animal
Steroids, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Transplant and Transplantation
(skin; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Medical goods
(stents, coated; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Medical goods
(strips; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

IT Diet
(supplements; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT Medical goods
(sutures; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT Lung
Skin
(transplant; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT Heart
(valve; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT Spinal column
(vertebra, artificial disks; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT 67-68-5, Dmso, uses 7732-18-5, Water, uses
RL: NUU (Other use, unclassified); USES (Uses)
(biocompatible solvent; protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT 56030-54-7
RL: PKT (Pharmacokinetics); BIOL (Biological study)
(protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT 111-20-6, Sebacic acid, biological studies 868-77-9, 2-Hydroxyethyl methacrylate 9002-84-0, Polytetrafluoroethylene 9002-86-2, Polyvinyl chloride 9002-89-5, ***Polyvinyl*** ***alcohol*** 9011-14-7, Polymethyl methacrylate 24980-41-4, Polycaprolactone 25248-42-4, Polycaprolactone 25322-68-3, ***Polyethylene*** ***oxide*** 25322-69-4, ***Polypropylene*** oxide 26009-03-0, Polyglycolic acid 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26100-51-6, Polylactic acid 26124-68-5, Polyglycolic acid 60840-55-3, Cellulose acetate dibutyrate
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)
IT 88-12-0, biological studies 111-30-8, Glutaraldehyde 7782-42-5, Graphite, biological studies 9000-94-6, Antithrombin iii 9002-04-4, Thrombin 9087-70-1, Aprotinin 52352-27-9 60117-35-3 63296-32-2 64309-05-3 102190-94-3 144249-24-1 176049-73-3
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(protein matrix ***prosthetic*** materials and devices for medical and pharmaceutical use)

L22 ANSWER 15 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:107058 HCAPLUS
DOCUMENT NUMBER: 136:156525
TITLE: A biocompatible biomaterial comprising a phospholipid-based artificial membrane
INVENTOR(S): Chaikof, Elliot L.; Feng, June; Orban, Janine M.; Liu, Hongbo; Sun, Xue Long; Faucher, Keith M.
PATENT ASSIGNEE(S): Emory University, USA
SOURCE: PCT Int. Appl., 117 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2002009647	A2	20020207	WO 2001-US24020		20010730
WO 2002009647	A3	20020725			
W: AU, CA, JP, US					
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR					
AU 2001083055	A5	20020213	AU 2001-83055		20010730
EP 1317253	A2	20030611	EP 2001-961819		20010730
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR					
JP 2004512062	T2	20040422	JP 2002-515202		20010730
US 2004063200	A1	20040401	US 2003-343408		20030722
PRIORITY APPLN. INFO.:			US 2000-221618P	P	20000728
			US 2000-221655P	P	20000728
			US 2000-221828P	P	20000728
			WO 2001-US24020	W	20010730

OTHER SOURCE(S): MARPAT 136:156525

AB A biocompatible biomaterial (or biol. component) is provided comprising a membrane-mimetic surface (film) covering a substrate. Suitable substrates include hydrated substrates, e.g., hydrogels which may contain drugs for delivery to a patient through the membrane-mimetic film, or may be made up of cells, such as islet cells, for transplantation. The surface may present exposed bioactive mols. or moieties for binding to target mols. in vivo, for modulating host response when implanted into a patient (e.g. the surface may be antithrombogenic or antiinflammatory) and the surface may have pores of selected sizes to facilitate transport of substances through it. An optional hydrophilic cushion or spacer between the substrate and the membrane-mimetic surface allows transmembrane proteins to extend from the surface through the hydrophilic cushion, mimicking the structure of naturally-occurring cells. An alkylated layer directly beneath the membrane-mimetic surface facilitates bonding of the surface to the remainder of the biol. component. Alkyl chains may extend entirely through the hydrophilic cushion when present. To facilitate binding, the substrate may optionally be treated with a polyelectrolyte or alternating layers of oppositely-charged polyelectrolytes to facilitate charged binding of the membrane-mimetic film or alkylated layer beneath the membrane-mimetic film to the substrate. The membrane-mimetic film is preferably made by in situ polymn. of phospholipid vesicles. For example, a stabilized, polymeric membrane-mimetic surface was produced on an alkylated polyelectrolyte multilayer by in situ photopolymn. of a lipid assembly. Mol. characterization confirmed the generation of a well-ordered supported lipid monolayer, which was stable under high shear flow conditions and capable of modulating interfacial mol. transport. In addn., the ability to use this system as a cell encapsulation barrier was illustrated. The addn. of a stable, supported lipid membrane provides an addnl. mechanism for controlling both the physiochem. and biol. properties of a polyelectrolyte multilayer, thus making it possible to optimize the clin. performance characteristics of artificial organs and other implanted medical devices.

IT ***Prosthetic*** materials and ***Prosthetics***
(antithrombogenic; polymd. phospholipid vesicles as membrane-mimetic surfaces for biocompatible biomaterials)

IT Blood vessel
Blood vessel
Bone
Cartilage
Heart
Joint , anatomical
Kidney
Ligament
Liver
Lung
Organ, animal
Tendon
(artificial; polymd. phospholipid vesicles as membrane-mimetic surfaces for biocompatible biomaterials)

IT ***Prosthetic*** materials and ***Prosthetics***
(implants; polymd. phospholipid vesicles as membrane-mimetic surfaces for biocompatible biomaterials)

IT 56-87-1, L-Lysine, biological studies 63-89-8, Dipalmitoylphosphatidylcholine 4235-95-4, DOPC 7440-57-5, Gold, biological studies 8001-27-2, Hirudin 9003-01-4, Polyacrylic acid 9003-05-8, Polyacrylamide ***9003-39-8*** , ***Polyvinylpyrrolidone*** ***9003-53-6*** , ***Polystyrene*** 9004-61-9, Hyaluronan 9004-61-9D, Hyaluronan, conjugates with lipids 9005-49-6, Heparin, biological studies 9007-28-7, Chondroitin sulfate 9050-30-0, Heparan sulfate 9056-36-4, Keratan sulfate 24967-94-0, Dermatan sulfate 25322-68-3, ***Polyethylene*** ***oxide*** 26662-91-9, Palmitoyloleoylphosphatidylcholine 195065-49-7 195065-50-0 195819-91-1 225239-50-9 395652-97-8
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymd. phospholipid vesicles as membrane-mimetic surfaces for biocompatible biomaterials)

L22 ANSWER 18 OF 18 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1971:437118 HCAPLUS
DOCUMENT NUMBER: 75:37118
TITLE: Study of the effect of mechanical working on the rheological properties of some potential artificial lubricants for human ***joints***
AUTHOR(S): Younes, M. A. M. A.; Walker, P. S.; Seller, P. C.; Dowson, D.; Wright, Verna
CORPORATE SOURCE: Bio-Eng. Group Study Hum. **Joints**, Univ. Leeds, Leeds, UK
SOURCE: Rheologica Acta (1971), 10(1), 21-7
CODEN: RHEAAK; ISSN: 0035-4511
DOCUMENT TYPE: Journal
LANGUAGE: English

AB As an artificial synovial fluid lubricant in human ***joints*** , **poly(ethylene oxide)** is unlikely to be successful in vivo over a long period, probably due to weak bonding, and ease of mech. degrdn. Na CM-cellulose, however has a high degree of resistance to mech. degrdn. and a configuration with less exposed bonds.

TI Study of the effect of mechanical working on the rheological properties of some potential artificial lubricants for human ***joints***

ST lubricant plastic synovial; ***polyethylene*** ***oxide*** synovial lubricant; carboxymethyl cellulose synovial lubricant; rheol synthetic synovial fluid

IT Synovial fluid
(artificial, cellulose carboxymethyl ether sodium salt and ***polyethylene*** glycol as)
IT ***Prosthetic*** materials
(cellulose carboxymethyl ether sodium salt and ***polyethylene*** glycol, as synovial fluid substitute)
IT Lubricants
(for human ***joints*** , cellulose carboxymethyl ether sodium salt and ***polyethylene*** glycol as, evaluation of)
IT Rheology
(of cellulose carboxymethyl ether sodium salt and ***polyethylene*** glycol synovial fluid substitutes)

L27 ANSWER 2 OF 3 MEDLINE on STN
ACCESSION NUMBER: 96420325 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8823024
TITLE: Injectable cartilage using ***polyethylene*** ***oxide*** polymer substrates.
AUTHOR: Sims C D; Butler P E; Casanova R; Lee B T; Randolph M A; Lee W P; Vacanti C A; Yaremchuk M J
CORPORATE SOURCE: Division of Plastic Surgery, Massachusetts General Hospital, Boston, USA.
SOURCE: Plastic and reconstructive surgery, (1996 Oct) 98 (5) 843-50.
Journal code: 1306050. ISSN: 0032-1052.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199611
ENTRY DATE: Entered STN: 19961219
Last Updated on STN: 19980206
Entered Medline: 19961104

AB This study demonstrates that ***polyethylene*** ***oxide*** gels, which are biocompatible and biodegradable synthetic polymers, can be utilized for the encapsulation of isolated chondrocytes and maintenance of three-dimensional spatial support for new tissue development. Chondrocytes isolated from the glenohumeral and humeroradioulnar ***joints*** of a calf were added to a 20% ***polyethylene*** ***oxide*** solution in Ham's F-12 medium to generate a final cellular density of 10 x 10(6)/mL. The polymer-chondrocyte constructs were injected through a 22-gauge needle in 500-microliters aliquots subcutaneously in 12 nude mice and incubated for 6 and 12 weeks in vivo. Histologic and biochemical analyses including deoxyribonucleic acid and glycosaminoglycan quantitative analyses confirmed the presence of actively proliferating chondrocytes with production of a well-formed cartilaginous matrix in the transplanted samples. Control specimens from eight implantation sites consisting of chondrocytes alone or ***polyethylene*** ***oxide*** substrates did not demonstrate any gross or histologic evidence of neocartilage formation. These findings demonstrate the potential use of an injectable and moldable polymer substrate that can support cell proliferation and matrix synthesis after subcutaneous transplantation for neocartilage generation. The use of functional biologic tissue substitutes may serve as an alternative solution to current methods of augmentation or reconstruction of structural craniofacial contour deformities.

TI Injectable cartilage using ***polyethylene*** ***oxide*** polymer substrates.

Animals
Biocompatible Materials
*Cartilage: CY, cytology
Cells, Cultured
Extracellular Matrix: SE, secretion
Feasibility Studies
Glycosaminoglycans: AN, analysis
Mice
Mice, Nude
****Polyethylene Glycols***
****Prostheses and Implants***

CN 0 (Biocompatible Materials); 0 (Glycosaminoglycans); 0 (***Polyethylene*** Glycols)

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File 350:Derwent WPIX 1963-2006/UD,UM &UP=200605
         (c) 2006  Thomson Derwent
File 349:PCT FULLTEXT 1979-2005/UB=20051229,UT=20051222
         (c) 2005 WIPO/Univentio
File 348:EUROPEAN PATENTS 1978-2005/Dec W04
         (c) 2006 European Patent Office
Set     Items   Description
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S2          6   AU='STEENSTRUP F R' OR AU='STEENSTRUP FREDERIK RESEN'
S3         69   AU='OLSEN OLE INGEMANN' OR AU='OLSEN OLE' OR AU='OLSEN O I'
              OR AU='OLSEN O'
S4          5   AU='JAKOBSEN L' OR AU='JAKOBSEN L D' OR AU='JAKOBSEN LENE -
             DINESS'
S5          3   AU='VRAA E' OR AU='VRAA ERIK'
S6          7   AU='LAURITZEN J' OR AU='LAURITZEN J B' OR AU='LAURITZEN JES
              BRUUN'
S7         12   AU='BECHGAARD K' OR AU='BECHGAARD KLAUS'
S8          3   S1 AND S2 AND S3 AND S4 AND S5 AND S6 AND S7
S9          3   IDPAT (sorted in duplicate/non-duplicate order)
S10         1   IDPAT (primary/non-duplicate records only)
S11    416627   JOINT? ?
S12    244068   PROSTHE???? OR IMPLANT? ? OR ARTIFICIAL
S13     36703   BIOCOMPATIBLE
S14        93   S1:S7 NOT S8
S15     14278   S11(S)S12
S16         1   S14 AND S15
S17        92   S14 NOT S16
S18         2   S17 AND S13

 10/7/1     (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006  Thomson Derwent. All rts. reserv.
014018237
WPI Acc No: 2001-502451/200155
  Prosthetic device for inserting into joint cavity of vertebrate of human,
  comprises biocompatible material containing first polymeric component
  with chain length longer than second polymeric component
Patent Assignee: CARTIFICIAL APS (CART-N); CARTIFICIAL AS (CART-N);
  BECHGAARD K (BECH-I); JAKOBSEN L D (JAKO-I); LAURITZEN J B (LAUR-I);
  OLSEN O I (OLSE-I); PEDERSEN W B (PEDE-I); STEENSTRUP F R (STEE-I); VRAA
  E (VRAA-I)
Inventor:  BECHGAARD K ;  JAKOBSEN L D ;  LAURITZEN J B ;  OLSEN O I ;
  PEDERSEN W B ;  STEENSTRUP F R ;  VRAA E
Number of Countries: 095  Number of Patents: 015
Patent Family:
Patent No      Kind   Date     Applicat No     Kind   Date      Week
WO 200145595   A2  20010628  WO 2000DK697     A   20001214  200155  B
AU 200119964   A   20010703  AU 200119964     A   20001214  200164
BR 200016474   A   20020820  BR 200016474     A   20001214  200263
                             WO 2000DK697     A   20001214
NO 200202905   A   20020812  WO 2000DK697     A   20001214  200265
                             NO 20022905      A   20020617
EP 1242008     A2  20020925  EP 2000983081    A   20001214  200271
                             WO 2000DK697     A   20001214
KR 2002070994  A   20020911  KR 2002707787    A   20020617  200311
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CZ 200201966    A3  20030312  WO 2000DK697     A   20001214  200324
                                CZ 20021966      A   20001214
SK 200200823    A3  20030502  WO 2000DK697     A   20001214  200333
                                SK 2002823       A   20001214
US 20030093152  A1  20030515  WO 2000DK697     A   20001214  200335
                                US 2002926756    A   20020503
JP 2003517875   W   20030603  WO 2000DK697     A   20001214  200346
                                JP 2001546337    A   20001214
CN 1433289      A   20030730  CN 2000818689    A   20001214  200365
ZA 200204778    A   20031126  ZA 20024778      A   20020613  200402
NZ 520073       A   20040227  NZ 520073        A   20001214  200418
                                WO 2000DK697     A   20001214
MX 2002005863   A1  20031201  WO 2000DK697     A   20001214  200470
                                MX 20025863      A   20020613
AU 779400       B2  20050120  AU 200119964     A   20001214  200512
Priority Applications (No Type Date): DK 991811 A 19991217
Patent Details:
Patent No  Kind Lan Pg   Main IPC    Filing Notes
WO 200145595  A2 E  61 A61F-002/30
   Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
   CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP
   KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT
   RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
   Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
   IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
AU 200119964  A        A61F-002/30   Based on patent WO 200145595
BR 200016474  A        A61F-002/30   Based on patent WO 200145595
NO 200202905  A        A61F-002/30
EP 1242008    A2 E     A61F-002/30   Based on patent WO 200145595
   Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
   LI LT LU LV MC MK NL PT RO SE SI TR
KR 2002070994 A        A61L-027/26
CZ 200201966  A3       A61F-002/30   Based on patent WO 200145595
SK 200200823  A3       A61F-002/30   Based on patent WO 200145595
US 20030093152 A1       A61F-002/44
JP 2003517875 W     70 A61F-002/30   Based on patent WO 200145595
CN 1433289    A        A61F-002/30
ZA 200204778  A     87 A61F-000/00
NZ 520073     A        A61F-002/30   Based on patent WO 200145595
MX 2002005863 A1       A61F-002/30   Based on patent WO 200145595
AU 779400     B2       A61F-002/30   Previous Publ. patent AU 200119964
                                     Based on patent WO 200145595
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Abstract (Basic): WO 200145595 A2

NOVELTY - A **prosthetic** device for inserting into **joint cavity** of vertebrate of human, comprises **biocompatible** material containing **polymeric** components (PC) (I,II). The **chain length** of **polymer** component (I) is **longer** than **chain length** of **polymeric** component (II).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(i) a method for introducing a **prosthetic** device into a **joint**, which involves locking device to intra-articular component for fixing or retaining device in **cavity** which is non-invasive to cartilage and bone present in **cavity**;

(ii) an instrument for inserting a **prosthetic** device comprising means for deforming **prosthetic** device into a reduced volume or a slender shape and means for grasping intra-articular component to which

the device is capable of interlocking;

(iii) a method for establishing slidability and/or pressure distribution in a **joint** of a vertebrate such as a human, comprising inserting into **cavity** of **joint** the **prosthetic** device, which is capable of locking itself to an intra-articular component and fixing or retaining in **cavity** which is non-invasive to cartilage and bone present in the **cavity**; and

(iv) a kit comprising:

(a) an intra-articular **prosthetic** device comprising (a.1) a **spacer** function and/or capability to exert pressure distribution and/or sliding movement of **joint** by internal movement of device by a resilient member and (a.2) a locking mechanism for fixing device to an intra-articular component by an element of device surrounding the component in such a way that the displacement of device is limited by inter-locking with the component; and

(b) an instrument for inserting the **prosthetic** device into a **joint cavity**.

USE - For establishing slidability and/or distributing pressure in a **joint** of a vertebrate (claimed), for alleviating and/or preventing conditions related to damaged **joints**, such as improving movements. Also for healing sick bone's structures and/or cartilage structures.

ADVANTAGE - The device is capable of locking itself to an intra-articular component such as ligament. Hence fixed or retained in **joint cavity** in a manner which is non-invasive to cartilage and bone natively present in the **joint cavity** and displacement of element is limited (claimed). The device permits the ligament to extend through the element exerting its natural function on the **joint**. The grooves are oriented in circulatory structure which prevents mating surface from gliding or sliding apart from each other. Further the structure comprises elements which reduces undesired movement in both of the directions, when the device is deformed during loading of the **joint**. The material present in the device is **biocompatible**, such as hemocompatible, thermoresistant, non-toxic and/or non-carcinogenic and has surface tension suitable for interaction between material and biological surfaces. Further the material is resistant to tear and wear, has good compressibility, surface flexibility and surface property which allows wetting with biological fluids and/or allows growth of chondritic cells. The material contact in biological surface is smooth and self-lubricating property. The material has excellent mechanical, chemical and physical stability, optimized tribiological properties, resistant to elevated temperature (sterilization), has affinity to the surrounding biological components and has dynamic characteristics suitable for stress distribution.

pp; 61 DwgNo 0/36

Derwent Class: A96; D22; P31; P32; P34
International Patent Class (Main): A61F-000/00; A61F-002/30; A61F-002/44; A61L-027/26
International Patent Class (Additional): A61B-017/56; A61F-002/28; A61L-027/00

16/3,AB,IC/1 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01110897
MEDICAL DEVICE COMPRISING A BIO-COMPATIBLE POLYMERIC PRODUCT WITH A LAYERED

STRUCTURE
DISPOSITIF MEDICAL COMPRENANT UN PRODUIT POLYMERE BIOCOMPATIBLE DOTE D'UNE STRUCTURE EN COUCHES
Patent Applicant/Assignee:
CARTIFICIAL A S, Fruebjergvej 3, Symbion, DK-2100 Kobenhavn O, DK, DK (Residence), DK (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
BECHGAARD Klaus , Osterled 2, DK-2100 Kobenhavn O, DK, DK (Residence), DK (Nationality), (Designated only for: US)
LOGSTRUP ANDERSEN Tom, Egegardsparken 113, Himmelev, DK-4000 Roskilde, DK , DK (Residence), DK (Nationality), (Designated only for: US)
LYSTRUP Aage, Gyvelvej 6A 1.th, DK-4000 Roskilde, DK, DK (Residence), DK (Nationality), (Designated only for: US)
BRONDSTED Povl, Ardenvej 4, DK-4600 Koge, DK, DK (Residence), DK (Nationality), (Designated only for: US)
LUND SPORRING Sune, Ingelstrupvej 7, DK-4682 Tureby, DK, DK (Residence), DK (Nationality), (Designated only for: US)
BRUUN LAURITZEN Jes, Gronningen 21, 4, DK-1270 Copenhagen K, DK, DK (Residence), DK (Nationality), (Designated only for: US)
OLSEN Ole , Skovvej 77D, DK-2920 Charlottenlund, DK, DK (Residence), DK (Nationality), (Designated only for: US
Legal Representative:
HOIBERG A S (agent), St. Kongensgade 59A, DK-1264 Copenhagen K, DK,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200432987 A1 20040422 (WO 0432987)
Application: WO 2003DK686 20031010 (PCT/WO DK03000686)
Priority Application: DK 20021567 20021011
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR
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(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: A61L-027/44
International Patent Class: A61L-027/14; A61F-002/02; B32B-027/32
Publication Language: English
Filing Language: English
Fulltext Word Count: 20084
English Abstract
Disclosed is a method and a medical device comprising a bio-compatible **polymeric** product with a layered structure comprising at least one upper layer of a first **polymeric** component, a middle layer of a second **polymeric** component, and at least one lower layer of a third **polymeric** component, wherein the **chain length** of the first **polymeric** component and the third **polymeric** component is **longer** than the **chain length** of the second **polymeric** component. The medical device combines the features of strength, durability and bio-compatibility as well as it has resistance to tear and wear and has a good compressibility. A preferred design of the medical device is a cup produced from a core or film of LDPE surrounded by two layers of UHMWPE fabric. The medical device can be used

as **implants** in mammals, especially as **artificial** cartilage within **joints** to secure mobility of the **joint** .

18/3,AB,IC/1 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01048191
LOW POLYDISPERSITY POLY-HEMA COMPOSITIONS
COMPOSITIONS DE POLY-HEMA DE FAIBLE POLYDISPERSITE
Patent Applicant/Assignee:
JOHNSON & JOHNSON VISION CARE INC, 7500 Centurion Parkway, Suite 100, Jacksonville, FL 32256, US, US (Residence), US (Nationality)
Inventor(s):
KINDT-LARSEN Ture, Sollerodvej 40, DK-2480 Holte, DK,
WOLFF Per, Bakkevej 15A, DK-3460 Birkerod, DK,
SORENSEN Jens-Erik, Judithsvej 6, DK-2900 Hellerup, DK,
STEENSTRUP Frederik Resen , Ehlersvej 2D, 3.tv, DK-2900 Hellerup, DK,
ROSSIGNOL Helene, Frederiksberg Alle 7, 4.tv., DK-1621 Copenhagen V, DK,
MOLOCK Frank F, 1543 Wildfern Drive, Orange Park, FL 32203, US
Patent Applicant/Inventor:
KINDT-LARSEN Ture, Sollerodvej 40, DK-2480 Holte, DK, -- (Residence), -- (Nationality), (Designated only for: US)
WOLFF Per, Bakkevej 15A, DK-3460 Birkerod, DK, -- (Residence), -- (Nationality), (Designated only for: US)
SORENSEN Jens-Erik, Judithsvej 6, DK-2900 Hellerup, DK, -- (Residence), -- (Nationality), (Designated only for: US)
STEENSTRUP Frederik Resen , Ehlersvej 2D, 3.tv, DK-2900 Hellerup, DK, -- (Residence), -- (Nationality), (Designated only for: US)
ROSSIGNOL Helene, Frederiksberg Alle 7, 4.tv., DK-1621 Copenhagen V, DK, -- (Residence), -- (Nationality), (Designated only for: US)
MOLOCK Frank F, 1543 Wildfern Drive, Orange Park, FL 32203, US, -- (Residence), -- (Nationality), (Designated only for: US
Legal Representative:
JOHNSON Philip S (et al) (agent), Johnson & Johnson, One Johnson & Johnson Plaza, New Brunswick, NJ 02933-7003, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200377792 A2-A3 20030925 (WO 0377792)
Application: WO 2003US6835 20030306 (PCT/WO US03006835)
Priority Application: US 2002363639 20020311; US 2003367253 20030214
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG
SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE
SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: C08F-118/00
Publication Language: English
Filing Language: English
Fulltext Word Count: 16953

English Abstract

The present invention relates to compositions comprising poly-HEMA having a peak molecular weight between about 25,000 and about 100,000, preferably between 25,000 and 80,000 and a polydispersity of less than about 2 to less than about 3.8 respectively and covalently bonded thereon, at least one **cross-link**able functional group. The present invention further relates to low polydispersity poly-HEMA suitable for making the **crosslink**able pre**polymers**, processes for functionalizing and purifying said poly-HEMA to form said **crosslink**able pre**polymers**, viscous solutions made from said **crosslink**able pre**polymers**, hydrogels made from said viscous solutions and articles made from said **crosslink**able **polymers**, hydrogels and viscous solutions.

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File 155:MEDLINE(R) 1951-2005/Dec 16
         (c) format only 2006 Dialog
File  73:EMBASE 1974-2006/Jan 23
         (c) 2006 Elsevier Science B.V.
File  34:SciSearch(R) Cited Ref Sci 1990-2006/Jan W2
         (c) 2006 Inst for Sci Info
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File 399:CA SEARCH(R) 1967-2005/UD=14403
         (c) 2006 American Chemical Society
Set     Items   Description
S1      12476   AU=(WHITE A? OR WHITE, A?)
S2        491   AU=(PEDERSEN W? OR PEDERSEN, W?)
S3          5   AU=(STEENSTRUP F? OR STEENSTRUP, F?)
S4       1274   AU=(OLSEN O? OR OLSEN, O?)
S5         93   AU=(JAKOBSEN L? OR JAKOBSEN, L?)
S6          5   AU=(VRAA E? OR VRAA, E?)
S7        256   AU=(LAURITZEN J? OR LAURITZEN, J?)
S8        771   AU=(BECHGAARD K? OR BECHGAARD, K?)
S9     516095   JOINT? ?
S10    860877   PROSTHES?S OR PROSTHETIC? ? OR IMPLANT? ? OR ARTIFICIAL
S11         1   S2 AND S3 AND S4 AND S5 AND S6 AND S7 AND S8 [a duplicate]
S12      2887   S2:S8 NOT S11
S13         1   S9(S)S10 AND S12 [a duplicate]
S14    134411   POLYMER??(S)CHAIN? ?
S15      2886   S12 NOT S13
S16        17   S14 AND S15
S17        14   RD  (unique items)
S18        14   Sort S17/ALL/PY,A

 18/6/3     (Item 3 from file: 399)
DIALOG(R)File 399:(c) 2006 American Chemical Society. All rts. reserv.
  Exact calculation of the partition function for a model of
two-dimensional polymer crystallization by chain folding

 18/6/4     (Item 4 from file: 399)
DIALOG(R)File 399:(c) 2006 American Chemical Society. All rts. reserv.
  Exact calculation of the partition function for a generalized model of
two-dimensional polymer crystallization by chain folding

 18/6/5     (Item 5 from file: 399)
DIALOG(R)File 399:(c) 2006 American Chemical Society. All rts. reserv.
  Extension of theory of growth of chain-folded polymer crystals to large
undercoolings

 18/6/6     (Item 6 from file: 399)
DIALOG(R)File 399:(c) 2006 American Chemical Society. All rts. reserv.
  The rate of crystallization of linear polymers with chain folding

 18/6/7     (Item 7 from file: 399)
DIALOG(R)File 399:(c) 2006 American Chemical Society. All rts. reserv.
  The configurational statistics of a polymer confined to a wedge of
interior angle .alpha.

 18/6/8     (Item 8 from file: 434)
02907138   Genuine Article#: HX789   Number of References: 9
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Title: RADIATION EFFECTS ON POLYMERS .12. MOLECULAR-WEIGHT AND MOLECULAR-WEIGHT DISTRIBUTION OF CELLULOSE ACETATE-GRAFTED POLYACRYLAMIDE SIDE- CHAINS AND HOMOPOLYACRYLAMIDE USING **GEL-PERMEATION CHROMATOGRAPHY**

18/6/9 (Item 9 from file: 73)
06910395 EMBASE No: 1997194837
Matrix-assisted laser desorption/ionization mass spectrometry sample preparation techniques designed for various peptide and protein analytes
1997

18/6/10 (Item 10 from file: 34)
05537028 Genuine Article#: WF124 Number of References: 27
Title: Electron-positron momentum density in TTF-TCNQ (ABSTRACT AVAILABLE)
Publication date: 19970115

18/6/11 (Item 11 from file: 399)
DIALOG(R)File 399:(c) 2006 American Chemical Society. All rts. reserv.
New binaphthyl-containing liquid-crystalline copolymers forming a chiral nematic phase

18/6/12 (Item 12 from file: 73)
07887483 EMBASE No: 1999360699
Two-dimensional charge transport in self-organized, high-mobility conjugated polymers
14 OCT 1999

18/6/13 (Item 13 from file: 34)
08414363 Genuine Article#: 283GL Number of References: 8
Title: Synthesis of small molar mass perdeuterated polyethyl-propylene (d-PEP) as an auxiliary for neutron studies (ABSTRACT AVAILABLE)
Publication date: 20000100

18/6/14 (Item 14 from file: 34)
09407265 Genuine Article#: 400EF Number of References: 23
Title: End effects in poly(styrene)/poly(ethylene oxide) copolymers (ABSTRACT AVAILABLE)
Publication date: 20010213

18/7/1 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
(c) 2006 American Chemical Society. All rts. reserv.
68030296 CA: 68(8)30296x JOURNAL
Kinetics of crystallization in multicomponent systems. II. Chain-folded polymer crystals
AUTHOR(S): Lauritzen, John I., Jr.; Passaglia, Elio
LOCATION: Natl. Bur. of Stds., Washington, D. C.
JOURNAL: J. Res. Natl. Bur. Stand., Sect. A DATE: 1967 VOLUME: 71
NUMBER: 4 PAGES: 261-75 CODEN: JNBAAR LANGUAGE: English
SECTION:
CA835000 Synthetic High **Polymers**
IDENTIFIERS: **CHAIN** FOLDED CRYSTALS **POLYETHYLENE**
DESCRIPTORS:
Polymers,properties...
crystn. of **chains** of, kinetics of
Crystallization...

of **polymer chains**, kinetics of

18/7/2 (Item 2 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

68030283 CA: 68(8)30283r JOURNAL
Effect of chain twisting on the effective barrier to reorientation for a hindered rotator
AUTHOR(S): Williams, Graham; Lauritzen, John I., Jr.; Hoffman, John Drake
LOCATION: Natl. Bur. of Stds., Washington, D. C.
JOURNAL: J. Appl. Phys. DATE: 1967 VOLUME: 38 NUMBER: 11 PAGES: 4203-8 CODEN: JAPIAU LANGUAGE: English
SECTION:
CA835000 Synthetic High **Polymers**
IDENTIFIERS: **CHAIN** TWISTING **POLYMERS**
DESCRIPTORS:
Chains,chemical...
reorientation of, potential barriers to, effect of twisting on
Potential barriers...
to reorientation of **chains** with hindered rotation